



Templates Part II
Interim Progress Report - Budget Period Three
Workplan - Budget Period Four
Focus Area B: Surveillance and Epidemiology Capacity

Budget Period Three Progress Report

Using the Interim Progress Report template below, provide a brief status report that describes progress made toward achievement of each of the *critical capacities* and *critical benchmarks* outlined in the continuation guidance issued by CDC in February 2002. Applicants should describe their agency's overall success in achieving each critical capacity. The progress report narratives should not exceed 1 page, single-spaced, for each critical capacity. Applicants are welcome to use bullet-point format in their answers, so long as the information is clearly conveyed in the response.

CRITICAL CAPACITY: To rapidly detect a terrorist event through a highly functioning, mandatory reportable disease surveillance system, as evidenced by ongoing timely and complete reporting by providers and laboratories in a jurisdiction, especially of illnesses and conditions possibly resulting from bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies.

Provide an update on progress during Project Year III toward achieving this critical capacity:

System to receive and evaluate urgent disease reports from all parts of Massachusetts on a 24-hour per day, 7-day per week basis:

The MDPH Bureau of Communicable Disease Control is exploring contracting the services of a professional answering service for after hours phone coverage. Phone logs were assessed for January-February, July-August, and October-November for 2001-2002. Between 70% and 90% of the calls in the after hours logs were for the Division of Epidemiology and Immunization. The number of calls each night ranged from 0-5; however, the calls volume increased dramatically when there was a high profile event under investigation (e.g., a meningitis fatality or the suspect anthrax submissions in the fall of 2001). Calls will also be assessed from the summer of 2000, when West Nile virus was first identified in Massachusetts. At this time, the call volume was high for a longer time period and we will use this as a guide on how many calls need to be handled during similar long lasting high profile events. An RFR for this type of service has been distributed and the MDPH is in the process of selecting a vendor.

In October 2001, the Division initiated laboratory-based active surveillance of select invasive organisms throughout the state. Data is forwarded to MDPH on a weekly or monthly basis in addition to existing passive surveillance reporting activities. MDPH epidemiologists have visited 73 out of 79 Massachusetts hospital laboratories to establish data submission protocols. Currently, electronic data are submitted to MDPH from 3 laboratories; 23 additional laboratories are submitting consistent prospective paper reports; 14 hospitals have submitted retrospective paper reports. The Division also produces a quarterly publication called the *Active Surveillance Quarterly (ASQ)*, which provides aggregate statewide data to hospital participants and discusses epidemiologic activities as well as novel State Laboratory Institute procedures. On October 8, 2002, 60 infection control practitioners and microbiology senior staff members from 38 hospitals attended an MDPH sponsored Active Surveillance Workshop. Topics included active surveillance in Massachusetts, pediatric invasive pneumococcal disease, and electronic reporting, which we continue to work towards via



Massachusetts Alert Network (see Focus Area E progress report).

Legal authority to require and receive reports on and investigate any suspect cases, potential terrorist events, or unusual illness clusters:

The Reportable Disease and Isolation and Quarantine Requirements were comprehensively revised to reflect new federal communicable disease surveillance recommendations and the latest recommendations for isolation and quarantine. The regulations were formally promulgated February 14, 2003.

A summary of the core changes is as follows:

- The reportable diseases list was amended to include those diseases or conditions recognized as posing a biological threat and recently identified disease threats such as West Nile virus infection.
- The requirements for isolation and quarantine were updated based on the latest recommendations of national advisory bodies and agencies, including the CDC.
- Direct laboratory reporting to MDPH was clarified and formalized, and will allow for increased capacity to identify disease clusters. Antimicrobial resistance in specific was also added.
- New language was written requiring veterinarians to report any animal disease potentially infectious to humans to the both MDPH and the Massachusetts Department of Food & Agriculture (MDFA).
- A new clause was established to grant the Commissioner of Public Health the authority to order the immediate reporting of any emerging infectious disease that threatens public health.
- Stronger language was also added to define the role of local and state health authorities to investigate, control and prevent disease.

These accomplishments were immediately put to use as SARS could be added to the reportable disease list without delay.

Timeliness and completeness of the reportable disease surveillance system, especially for naturally occurring illnesses and conditions mimicking those resulting from a terrorist action:

The ability to declare SARS reportable so quickly led to timely reports, timely follow-up, good communication with providers and appropriate handling of laboratory specimens according to protocols that could be quickly modified based on the current experience.

The *Guide to Surveillance and Reporting* was developed to improve timeliness and completeness of case report forms submitted to the MDPH. Case report forms for 6 selected reportable diseases submitted before and after the manual was distributed and trainings were completed will be analyzed for completeness and timeliness using pre-determined criteria. The pre-manual period was defined as March 1, 2000 through February 28, 2001, and the post-manual period was defined as November 1, 2001 through October 31, 2002.

Capacities associated with monitoring dermatological conditions/rash illnesses:

All suspect cases of rash illness are routinely investigated within 24 hours; all suspect and confirmed cases of measles and rubella are closely followed to determine susceptible contacts and to make recommendations for control and prevention of disease; specimens from patients with maculopapular rashes are tested for measles, rubella and parvovirus. A rash epidemiologist has been hired for rash and varicella surveillance. In addition the following activities have occurred:

- Internal protocols have been developed, including an intake form for febrile vesicular/pustular rashes.
- Internal documents on handling of smallpox vaccine adverse events have been developed.
- Trainings for staff have been done on rash identification and surveillance.
- Varicella surveillance was enhanced.
 - In 2002 comprehensive internal investigation protocols were developed for reported varicella cases, including reports involving vaccinated, multiple, or atypical cases.
 - Case worksheets and a varicella database, with functions to calculate disease attack rates and vaccine effectiveness, were developed.
 - Sentinel schools, all health care providers, hospitals and infection control practitioners were reminded in 2002 via mail about varicella reporting.



- A case report form was developed for implementation by the beginning of 2004.
 - School, hospital, and provider-based varicella surveillance continued, with increased participation on all levels in 2002.
 - An epidemiologist to serve as the Varicella/Rash Illness Surveillance Coordinator was hired.
 - The Massachusetts State Laboratory Institute developed the capacity to perform PCR, DFA and shell vial (culture technique) testing for varicella on clinical specimens.
 - The CDC rash evaluation poster has been distributed to ID and dermatological clinicians.
 - Infection control procedures for hospitals and internal trainings for staff on smallpox vaccination and adverse events have occurred.
 - Reporting of rash illness has been encouraged through mailings and presentations.
 - Lab capacity has been expanded to include standard operating procedures (SOPs), further testing for varicella, anthrax and smallpox (see Focus Area C) and specimen collection SOPs for varicella, variola and vaccinia have been developed. Specimen collection kits (varicella, variola and vaccinia) are available are located in 6 regional offices around the state.
- These accomplishments and preparations were proven valuable with the emergence of monkeypox and allowed us to respond promptly and appropriately to reports of suspect rashes.

What is the status of your state's development of a system to receive and evaluate urgent disease reports from all parts of your state and local public health jurisdictions on a 24-hour per day, 7-day per week basis? Choose only one of the following:

- ☐ Development work has not begun (0% completed)
- ☐ Development work has just started (less than 25% completed)
- ☐ Development work is underway (26-50% completed)
- ☐ Development work is more than half way completed (51-75% completed)
- ☒ Development work is close to completion (greater than 75% completed)
- ☐ Development work completed (100% completed)

CRITICAL CAPACITY: To rapidly and effectively investigate and respond to a potential terrorist event as evidenced by a comprehensive and exercised epidemiologic response plan that addresses surge capacity, delivery of mass prophylaxis and immunizations, and pre-event development of specific epidemiologic investigation and response needs.

Provide an update on progress during Project Year III toward achieving this critical capacity:

Epidemiologic response-specific planning:

MDPH has been working to facilitate a comprehensive statewide assessment to provide information on existing capabilities and capacities to assist the MDPH in its overall emergency preparedness planning efforts. In September 2002, a working group was formed in order to address the epidemiologic needs of local health departments (LHD) and to assist in epidemiologic response planning of the state health department. The working group has provided input to the needs assessment and has also continued progress on the development of a template for local infectious disease response planning. All minutes of the working group are added to the MDPH BT Advisory Webpage and communication within the working group has been enhanced through the use of a listserv for all 75+ members.



Preparedness response was tested successfully with the emergence of SARS and monkeypox. Relationships established were instrumental in leading to timely reports and appropriate response to both diseases.

Training of state and local public health staff who would respond to a bioterrorism event:

MDPH continues to work with LHDs, infection control practitioners (ICP) and health care providers to build capacity for infectious disease surveillance, reporting and control. The *Guide to Surveillance and Reporting* was developed in March 2001 to increase knowledge and skills, and continues to be well received.

A second training program for the *Guide to Surveillance and Reporting* was developed and implemented in the fall of 2002 and was a collaboration between the Division of Epidemiology and Immunization, the Massachusetts Association of Public Health Nurses and the Massachusetts Health Officers Association. The objectives of the training program were to: sharpen knowledge of principles of infectious disease surveillance, reporting and control; describe the LHD and health care provider responsibility in the state's infectious disease surveillance program; introduce the *Guide to Surveillance and Reporting*; discuss barriers to reporting and brainstorm solutions; and work through a case study. Four trainings were held around the state and included a total of 152 participants, with 92 LHDs represented, but also included ICPs, physicians, and health educators from community agencies. Based on positive feedback on the usefulness of the statewide training program, MDPH will continue this program on a yearly basis to accommodate the needs of LHDs.

An online self-study course based on the *Guide to Surveillance and Reporting* has been created and is undergoing final review. It has been beta-tested by MDPH epidemiologists and LHD representatives, including public health nurses and will be posted on the internet and made available to interested users.

Risk and vulnerability assessments of food and water:

The Department of Environmental Protection, EPA Region 1, USDA Region 1, Massachusetts Food Protection Program, Massachusetts Department of Food and Agriculture (MDFA), Massachusetts Restaurant Association, Massachusetts Food Retailers Association and various other key members have provided valuable insight as to the most comprehensive methods available to be able to assess food and water vulnerability. Some of the milestones of the subgroups include:

- Developed a vulnerability assessment tool for use with food processors/distributors and tracking database.
- Conducted 200 assessments of food processing and/or distribution facilities.
- Developed self-inspection checklist for food processors/distributors & retail food establishments.
- Developed food security awareness educational posters.
- Amended specific regulations to enhance recall/trace-back systems.
- Incorporated food security as part of existing training for LHDs.
- Established regional food security committee to address issues common to all.
- Hired Biosecurity Coordinator, a Risk Assessment Officer/Dairy Inspector, and a Risk Assessment Officer/Livestock Inspector.
- Developed a survey instrument for use in the dairy and poultry industries to identify and document the most obvious vulnerabilities of these farms to both natural and terrorist initiated introduction of disease.
- Completed about 60 of 250 dairy farm, and 10 of 14 poultry farm, on-site visits.
- Visited the state's live animal auction markets to determine compliance with SOPs regarding traceability of animal movements forward and backward from the auction markets.
- Added specific regulations pertaining to the oversight of auction markets.
- Developed enhanced biosecurity measures for dairy facilities, poultry facilities and open farms, and health rules for fairs and livestock exhibitions and a general self-assessment form for farm biosecurity.
- Conducted update of MDFA emergency contact information for incorporation into the Comprehensive Emergency Management Plan of the Massachusetts Emergency Management Agency (MEMA).
- Initiated effort to coordinate with the Massachusetts Farm Bureau to provide both emergency contact and resource contact assistance to backyard flocks and personal small farm locations.
- Conducted a census of all non-commercial livestock holdings to ensure that individuals of susceptible animal species can be located statewide in the event of a highly contagious or zoonotic disease outbreak.



How many Metropolitan Statistical Areas (MSAs) with a population greater than 500,000 exist in your state?

Massachusetts has a population of approximately six million people but only one MSA, which stretches from the New Hampshire border (at Nashua, NH) to Cape Cod.

How many of these MSAs have at least one epidemiologist (1 FTE) dedicated to bioterrorist and emergency response?

The city of Boston, which is part of the Boston MSA, itself with >500,000 population, has 1.5 FTEs dedicated to BT and other infectious disease emergency responses. In the absence of county health departments, MDPH epidemiologists provide direct support to the geographic portion of the MSA that lies outside the Boston city limits and the rest of the state. Outside of the Boston city limits MDPH provides 2+ epidemiologists/500,000 population for BT and infectious disease response.

CRITICAL CAPACITY: To rapidly and effectively investigate and respond to a potential terrorist event, as evidenced by ongoing effective state and local response to naturally occurring individual cases of urgent public health importance, outbreaks of disease, and emergency public health interventions such as emergency chemoprophylaxis or immunization activities.

Provide an update on progress during Project Year III toward achieving this critical capacity:

Training of state and local public health staff who would respond to a bioterrorism event:

A one-hour emergency preparedness training has been developed for MDPH staff with a focus on the state's role in responding to a BT event and will be mandatory for all MDPH employees. The content is currently in final review and will be ready to implement in the fall of 2003. Numerous local health oriented seminars and conferences added emergency preparedness and incident command to their agendas during the fall and winter of 2003-2004. Additionally, formal training programs have been developed through the professional associations representing local health. The MA Health Officers Association held a one-day training program in April 2003 for health directors and health agents on emergency preparedness. The Local Health Coalition has developed a one-day training on strengthening emergency preparedness in Massachusetts to be initially held in July 2003 and then replicated at 5 additional meetings around the state over the following month. A locally led and developed satellite broadcast on emergency preparedness, incident command and collaboration is being developed in collaboration with the Harvard Center for Public Health Preparedness and will be aired 7/8/2003. The broadcast will consist of expert panel discussion, roll-ins of pre-taped footage, questions and answers. Additionally an exercise will be held at each downlink site to incorporate the principles of the broadcast.

Achieve an around-the-clock capacity for immediate response to reports of urgent cases, outbreaks, or other public health emergencies, including any events that suggest intentional release of a BT agent:

MDPH staff is available to accept urgent disease reports 24/7 through the Division of Epidemiology & Immunization. During normal business hours (9a-5p, M-F) this occurs through the Division of Epidemiology & Immunization. After hours, a team of epidemiologists and physicians provide rotating coverage. Calls are triaged by security personnel at a central location and notification then occurs via a paging system. This system worked extremely well as was evidenced by an effective response to the emergence of SARS and



monkeypox, both of which were first reported over a weekend.

The Massachusetts Alert Network in combination with NEDSS initiatives will allow for electronic reporting and case management of diseases by laboratories, health care providers and local public health agencies. Urgent disease reports or unusual clusters of diseases will trigger an automatic health alert to the epidemiologist on-call and appropriate local health authorities. Veterinarians and veterinary practices will also be included in the Alert Network to allow for appropriate zoonotic disease reporting. See Focus Area E progress report for a complete update of activities related to electronic reporting.

Assess the adequacy of state and local public health response to outbreaks of disease and other public health emergencies:

The MDPH is facilitating a comprehensive statewide assessment providing information on existing capabilities and capacities, and identifying gaps to the MDPH to utilize in its emergency preparedness planning efforts. The ability of local public health to be able to respond to an outbreak of infectious disease will be monitored. Please see Focus Area A for complete progress on the Massachusetts Needs Assessment.

Assess and strengthen links with animal surveillance systems and the animal health community:

- A veterinary epidemiologist and a training coordinator were recruited for the Massachusetts Department of Food and Agriculture's Bureau of Animal Health (BAH).
- The Massachusetts Department of Food and Agriculture (MDFA) is now linked to the Alert Network.
- Cell phones have been provided to all professional and field staff in the BAH to strengthen communications between headquarters and the inspectors conducting disease investigations in the field.
- An Animal Disease Surveillance and Education Subgroup for Focus Area B, established in October of 2002, meets regularly. Minutes are posted on the MDPH BT preparedness and response website.
- Outreach to raise awareness of the importance of animal disease reporting and surveillance and to solicit participation in a statewide syndromic surveillance program has been conducted.
- Terms of reference have been developed to solicit outside technical services to develop web-based animal disease reporting and web-based syndromic disease surveillance in Massachusetts.
- Workshops in BT preparedness and response for various constituencies in the animal health community are being developed.



Budget Year Four Workplan

For each Recipient Activity applicants should complete the work plan templates attached below. Applicants are welcome to use bullet-point format in their answers, so long as the information is clearly conveyed in the response. All responses should be brief and concise. **Please note that full use of the CDC templates will meet all of the requirements for submission of a progress report and work plan.** Although no additional information is required, grantees may elect to submit other essential supporting documents via the web portal by uploading them as additional electronic files.

I. PUBLIC HEALTH SURVEILLANCE AND DETECTION CAPACITIES

CRITICAL CAPACITY #5: To rapidly detect a terrorist event through a highly functioning, mandatory reportable disease surveillance system, as evidenced by ongoing timely and complete reporting by providers and laboratories in a jurisdiction, especially of illnesses and conditions possibly resulting from bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies. (See Appendix 4 for IT Functions #1-6.)

1. Complete development and maintain a system to receive and evaluate urgent disease reports and to communicate with and respond to the clinical or laboratory reporter regarding the report from all parts of your state and local public health jurisdictions on a 24-hour-per-day, 7-day-per-week basis. (**CRITICAL BENCHMARK #7**)

Strategies: What overarching approach(es) will be used to undertake this activity?

Since currently, building security personnel receive all after-hour calls to MDPH, the strategy to enhance the capacity that urgent disease reports are received and communicated in a reliable and professional manner is to obtain a professional answering service to provide the necessary after-hour services.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

A request for response (RFR) was developed and posted. Submissions are currently being evaluated to determine if the applicants meet the requirements set forth in the RFR.

- A contract will be awarded for after-hours call services.
- Strategies will be developed to evaluate performance of contracted services.
- Performance will be evaluated.

Timeline: What are the critical milestones and completion dates for each task?

- Award contracts by 9/2003.
- Develop strategies to evaluate performance by 12/2003.
- Evaluate performance 1/2004-8/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization staff are responsible for all tasks.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

MDPH will be responsible for overseeing the evaluation and progress of the answering service.

Some of the evaluation criteria the service will be measured on include:

- The experience level of staff, particularly in the field of medical terminology
- Success handling high call volume
- The overall satisfaction of callers and epidemiologists based on random evaluations
- Time analysis, e.g. lapse between when call is received by service and when page is received
- Policy to ensure caller confidentiality

2. Ensure legal authority to require and receive reports and investigate any suspect cases, potential terrorist events, unusual illness or injury (e.g., chemical or radiological) clusters, and respond in ways to protect the public (e.g., quarantine laws).

Strategies: What overarching approach(es) will be used to undertake this activity?

The Reportable Disease and Isolation and Quarantine (I&Q) Requirements were comprehensively revised to reflect new federal communicable disease surveillance recommendations and the latest recommendations for isolation and quarantine. The regulations were formally promulgated February 14, 2003 (see Interim Progress report for details).

Additional activities will include the revision of appropriate case report forms to reflect the new requirements and also the development of policies and procedures for declaring diseases reportable.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- The I&Q Regulations were promulgated in February 2003.
- All case report forms will be reviewed for appropriateness and applicability. For newly reportable diseases, case report forms will be developed.
- Policies and procedures will be developed regarding the addition of diseases and syndromes to the reportable disease list.

Timeline: What are the critical milestones and completion dates for each task?

The task regarding promulgation was completed. Existing case report forms will be reviewed, revised and ready for use by 10/2003. New case report forms will be developed by 1/2004. Policies and procedures regarding additions to the reportable disease list will be formulated by 1/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH staff will be responsible for all activities.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

The Reportable Disease and Isolation and Quarantine Regulations were successfully promulgated in February 2003.



3. At least annually, with the input of local public health agencies, assess the timeliness and completeness of your reportable disease surveillance system for:
 - a. Outbreaks of illness and/or key categories of cases of reportable diseases, particularly those that are caused by agents of bioterrorism concern or those that mimic agents of bioterrorism concern; and others, such as influenza, invasive bacterial diseases, vaccine preventable diseases, vector-borne diseases, and food- and water-borne diseases.
 - b. Acute dermatological conditions/rash illnesses.

Strategies: What overarching approach(es) will be used to undertake this activity?

- A. Outbreaks of Illness
 - Quantify timeliness and completeness of disease reporting.
 - Continue analyses of timeliness and completeness of paper disease reports for 6 select diseases (hepatitis A virus, invasive meningococcal disease, *Shigella* spp., *Giardia lamblia*, *Cryptosporidium parvum*, *Campylobacter* spp.).
 - Enhance active surveillance for hemolytic uremic syndrome (HUS).
- B. Acute dermatological conditions/rash illnesses
 - Enhance active surveillance for adverse events in smallpox vaccinees.
 - Educate the dermatologic and infectious disease communities as well as ED personnel and infection control practitioners regarding the careful confirmation of all rash illness diagnoses including unusual rash illnesses such as monkeypox.
 - Educate the above practitioners of the immediate need for notification of MDPH in these instances.
 - Enhance varicella rash surveillance efforts in anticipation of more complete case ascertainment.
 - In response to the emergence of monkeypox in the US, modify rash illness investigation forms to include information regarding animal contact.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- A. Outbreaks of Illness
 - Complete timeliness and completeness analyses for the 3/1/00-2/28/01 time frame.
 - Enter data for the 11/1/01-10/31/02 time frame.
 - Complete timeliness and completeness analyses for the 11/1/01-10/31/02 time frame.
 - Create reports or another mechanism to communicate results to MDPH epidemiologists, local health departments (LHD), and other key stakeholders.
 - Continue active surveillance for HUS.
- B. Acute dermatological conditions/rash illnesses.
 - Initiate active surveillance of all civilian smallpox vaccinees at day 21 through 28-post vaccination to determine if there were any adverse events, including rashes.
 - Disseminate smallpox vaccine adverse event information, including reporting and treatment.
 - Require providers to report adverse events related to smallpox vaccine.



- Address reporting of rash illnesses, as well as changes to varicella surveillance, in a variety of forums, e.g. grand rounds, immunization updates, newsletters and mailings.
- Discuss reporting mechanisms and timeliness regarding smallpox vaccine adverse events.
- Follow up on reported cases of rash illness 24/7.
- Finalize an individual case report form for varicella.
- Implement Varicella Case Report Form usage throughout the state.
- Modify internal rash response protocols to include language about animal contact.

Timeline: What are the critical milestones and completion dates for each task?

A. Outbreaks of Illness

- Timeliness/completeness analyses for 3/1/00-2/28/01 completed by 9/30/03.
- Results disseminated by 10/30/03.
- Data entry for the 11/1/01-10/31/02 time frame completed by 10/1/03.
- Timeliness/completeness analyses for 11/1/01-10/31/02 completed by 2/30/04.
- Continue active surveillance for HUS by enrolling nephrologists to participate.

B. Acute dermatological conditions/rash illnesses.

- By 12/2003, communicate with LHD, schools and providers about the new varicella reporting system.
- Immediately add language regarding animal contact to rash investigational protocols.
- By 2/2004, start individual case based reporting for varicella.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

A. Outbreaks of Illness

- Epidemiology Program staff is responsible for all part A activities outlined above.

B. Acute dermatological conditions/rash illnesses.

- The Immunization Program medical director is responsible for the implementation and evaluation of the smallpox vaccination plan, and development of rash evaluation tools and protocols in the era of continued smallpox vaccination.
- Medical directors from both the Epidemiology and Immunization Programs and the State Public Health Veterinarian are responsible for all activities related to development of monkeypox materials.
- The rash/varicella epidemiologist is responsible for enhancing surveillance efforts for rash illness, especially varicella, for protocol development and database creation and management around rash illness and smallpox vaccine adverse event follow-up.
- The adverse events coordinator will ensure completion of the VAERS 1 and 2 forms, the active surveillance form for smallpox vaccinees, and assist with the development of materials around reporting of adverse events.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

A. Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

B. Completion of VAERS forms on 100% of significant events for civilian smallpox vaccinees in



MA and implementation of individual case report form for varicella by February 2004.

4. Based on these assessments, develop or enhance reporting protocols, procedures, surveillance activities information dissemination, or analytic methods that improve the timeliness, completeness, and usefulness of the reportable disease system.

Strategies: What overarching approach(es) will be used to undertake this activity?

A. Outbreaks of Illness

- Identify barriers to timely and complete disease reporting.
- Encourage nephrologists to report HUS cases in a timely manner.

B. Acute dermatological conditions/rash illnesses.

Improvements to surveillance forms and protocols for varicella, smallpox and other febrile rash illnesses, such as monkeypox, will be made in accordance with the latest guidance from CDC. These protocols will include guidance on differential diagnosis, contact tracing and expanded infection control procedures at the community and hospital levels. The materials will be shared with providers, as well as the dermatologic, ID and infection control practitioner communities.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

A. Outbreaks of Illness

- Identify and notify LHDs deficient in timeliness and/or completeness of disease reports.
- Work with LHDs to identify barriers to timely and complete disease reporting.
- Provide tips on ways to improve timeliness and completeness of disease reports.
- Disseminate up to date information about the epidemiology of HUS in Massachusetts to nephrologists and to encourage nephrologists to report HUS cases in a timely manner.

B. Acute dermatological conditions/rash illnesses.

- Incorporate rash evaluation and reporting into smallpox vaccination training clinics.
- Disseminate materials, such as the CDC smallpox algorithm for differentiating smallpox from varicella, MDPH documents for evaluation of febrile vesicular and pustular rashes, infection control measures for rash illnesses, as well as specimen collection.
- Update and continue to distribute smallpox vaccine adverse event reporting materials.
- Promote the change to individual case reporting for varicella to key stakeholders.
- Convey all the above information in a variety of formats, including grand rounds, immunization updates, regional meetings, newsletters and special mailings.

Timeline: What are the critical milestones and completion dates for each task?

A. Outbreaks of Illness

- LHDs deficient in timeliness and/or completeness will be identified by 2/30/04.
- Epidemiologists will work with LHDs to identify barriers to timely and complete disease reporting as well as set goals to improve timeliness and completeness by 6/30/04.
- Epidemiologists will work with LHDs to develop helpful tips to improve timeliness and completeness of disease reports by 6/30/04.
- Up to date information on the epidemiology of HUS in Massachusetts will be disseminated to nephrologists on a yearly basis.



- B. Acute dermatological conditions/rash illnesses.
- Internal and external protocols will be updated and distributed by 10/2003 to hospitals (including emergency rooms), infection control practitioners and LHDs.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

- A. Outbreaks of Illness
- Epidemiology Program staff.
- B. Acute dermatological conditions/rash illnesses.
- Rash/varicella epidemiologist is responsible for development and updating of internal and external documents, with assistance and input from the medical directors as well as an internal workgroup consisting of epidemiologists from within the program. In addition, the Smallpox Advisory Committee will help to direct the state smallpox plan.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

- A. Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.
- B. If protocols (noted above) for smallpox are developed and in use and number of varicella cases reported increase compared to the previous year.

5. a. Provide ongoing specialized disease surveillance and epidemiologic training for public health, clinical, and other healthcare professionals to develop subject matter expertise within the public health system for disease detection, contact tracing, and outbreak analysis. **(LINK WITH FOCUS AREA G, CROSS CUTTING ACTIVITY EDUCATION AND TRAINING, Attachment X)**

- b. Evaluate disease surveillance and epidemiologic training for public health personnel.

Strategies: What overarching approach(es) will be used to undertake this activity?

MDPH will continue to educate, train and evaluate LHD, infection control practitioners and health care providers to build capacity for timely and complete infectious disease surveillance, reporting and control. The Massachusetts *Guide to Surveillance and Reporting*, developed in 1/2002 to increase knowledge and skills continues to be used as a training tool.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Present a series of daylong statewide trainings based on the *Guide to Surveillance and Reporting* in collaboration with the Massachusetts Association of Public Health Nurses and the Massachusetts Health Officers Association.

Timeline: What are the critical milestones and completion dates for each task?

- Develop training program by 10/2003.
- Implement trainings in 5 locations in Massachusetts by 11/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.



The coordinators for Focus Area G, the Curriculum Planning and Inventory Subgroup and the Epidemiology and Surveillance Workgroup, in collaboration with the MDPH Division of Epidemiology and Immunization, will be responsible for tasks associated with this activity.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

6. Ensure epidemiologic capacity to manage the reportable disease system at the state and local level by providing necessary staffing, supplies, and equipment for epidemiology, surveillance, and interpretation of clinical and laboratory information. **(LINK WITH FOCUS AREAS C AND G)**

Strategies: What overarching approach(es) will be used to undertake this activity?

To ensure epidemiologic capacity, MDPH has invested in personnel with subject matter expertise and systems implementation and support.

21 desktop computers have been purchased to surveillance and other staff as well as iPads, a printer, a form scanner, Nextel phones and two-way pagers for special activities like overnight epidemiology coverage and technical support.

Epidemiology and laboratory staff develop protocols jointly in response to infectious disease situations and events, e.g. SARS, monkeypox, WNV, vaccinia, etc., as appropriate. After-action assessments are done to modify jointly developed protocols as needed.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Assess needs for further personnel and/or equipment.
- Hire and/or purchase necessary personnel and/or equipment, respectively.
- Meetings with Division and Laboratory staff will be held both to discuss new protocol development needs and to assess the need for modification of existing protocols.

Timeline: What are the critical milestones and completion dates for each task?

- MDPH monitors and addresses any needs for personnel and/or equipment necessary to ensure sufficient epidemiologic capacity.
- Protocol development and assessment will be monitored on an on-going basis depending on the particular protocols under review and the immediacy of the need.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH Division of Epidemiology and Immunization personnel and Laboratory staff.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?



- MDPH continually monitors the timeliness and reliability of its epidemiologic capacity and user technical support. Each paper based case report is time stamped upon receipt and filed after being entered into our auditable surveillance system. In addition, technical support inquiries are generally addressed on the same business day and are well logged.
- If response activities are successfully handled by both Laboratory and Division staff using the existing protocols.

7. a. Educate and provide feedback to reporting sources in your jurisdiction about notifiable diseases, conditions, syndromes and their clinical presentations, and reporting requirements and procedures, including those conditions and syndromes that could indicate a terrorist event. **(LINK WITH FOCUS AREA G, CROSS CUTTING ACTIVITY EDUCATION AND TRAINING, Attachment X)**

- b. Evaluate training provided to clinicians and other health care providers.

Strategies: What overarching approach(es) will be used to undertake this activity?

Based on the recent promulgation in 2/2003 of *105 CMR 300.000: Reportable Diseases and Isolation and Quarantine Requirements*, educational/training programs will be developed and implemented for reporting sources regarding notifiable diseases, conditions, syndromes and their clinical presentations, and reporting requirements and procedures, including those conditions and syndromes that could indicate a terrorist event.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Develop a statewide education and training program based on 105 CMR: 300.000: Summary of Reportable Diseases and Isolation and Quarantine Requirements.
- Develop and implement a series of “Question and Answers” forums that highlight the amendments to 105 CMR: 300.000; and
- Identify real or perceived LHD barriers around collecting timely and complete case data and develop educational material and a training module, based on behavioral health and learning theories, to assist local public health nurses in removing barriers.

Timeline: What are the critical milestones and completion dates for each task?

- Develop and implement a statewide education and training program based on *105 CMR: 300.000* by 4/1/2004.
- Provide a series of “Question and Answers” forums, based on the amendments to *105 CMR 300.000* at a minimum of 5 locations around the state by 9/2003.
- Identify barriers around collecting timely and complete case data and incorporate a training module into the annual daylong training program based on the *Guide to Surveillance and Reporting* (described above) by 11/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The coordinators for Focus Area G and the Epidemiology and Surveillance Workgroup, in collaboration with the MDPH Division of Epidemiology and Immunization Program, will be responsible for tasks



associated with this activity.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

8. Assess and strengthen links with animal surveillance systems and the animal health community to support early detection efforts of illness among animals.

Strategies: What overarching approach(es) will be used to undertake this activity?

In conjunction with the Massachusetts Department of Food and Agriculture Bureau of Animal Health (BAH), approaches to strengthen animal surveillance includes the implementation of an Internet-based system for the detection and reporting of infectious diseases in domestic animals, which will be modeled after similar prototypes used to track human infectious diseases. It will allow the monitoring and detection of disease outbreaks caused by indigenous and foreign animal disease pathogens, with an emphasis on zoonotic disease pathogens.

The data collected will be stored on a central server at BAH and will be kept confidential under the state bioterrorism emergencies statutes. This server will be linked to receive information from the Massachusetts State Laboratory Institute (MSLI) and private clinical laboratories and will be integrated, as appropriate with the MDPH human infectious disease surveillance system.

BAH will initially use the data obtained from web-based reporting to develop baseline information on syndromes and investigate outbreaks as they occur. Monthly cumulative reports will be shared with the veterinary community through direct reports to participating veterinarians and practices as well as periodic articles in the Massachusetts Veterinary Medical Association (MVMA) Newsletter on these surveillance activities and their findings.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Update BAH Reportable Animal Disease list to include CDC A List Agents.
- Strengthen relations with the veterinary community through MVMA meetings.
- Develop a list of animal syndromes for surveillance with input from private practitioners.
- Conduct outreach activities to enlist veterinary practices, teaching institutions, the Boston Animal Rescue League, the MSPCA, Zoo New England, and other appropriate organizations to participate in web based syndromic surveillance.
- Conduct presentations and training for the participating practices and organizations.
- Prepare newsletter articles for MVMA and MA Vet. Technicians Association (MVTA).
- Assess data collection activities and quality of data.
- Conduct data analysis and prepare reports for communication with the veterinary and public health community.
- Develop background “disease status” for the different syndromes.

Timeline: What are the critical milestones and completion dates for each task?



- Animal disease report list will be reviewed and updated by 9/2003 and revised as required.
- Monthly meetings and discussions with the MVMA Steering Committee on Communicable Animal Diseases, Massachusetts Emergency Animal Response Team and the BT and Animal Surveillance and Education Subgroup will be held.
- Contributions will be made to the MVMA and MVTA newsletters quarterly.
- By 9/2003, an RFR will be developed for Web animal Disease Surveillance, a vendor will be identified and selected and approximately 10 veterinary practices and organizations will be enlisted to participate in syndromic disease reporting.
- Pilot prototype on animal disease reporting will be available by 9/15/2003.
- Training and education of the vet community on animal disease reporting, animal disease surveillance and zoonosis surveillance (7/2003 – 7/2004) will be provided at multiple locations around the state in conjunction with MVMA.
- Evaluation and analysis of web site reporting will occur (10/2003-6/2004).

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

BAH Veterinary Epidemiologist/Professional Staff, the BAH Training Coordinator, State Veterinarian and State Public Health Veterinarian will work on all tasks in conjunction with MVMA officers and Focus Area B Veterinarian Subgroup members when appropriate.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

9. In coordination with your public health laboratory, develop and implement a strategy to ensure laboratory testing (in clinical or public health laboratories) for rapid or specific confirmation of urgent case reports. (See Appendix 4 for IT Functions #1, 4, and 5.) **(LINK WITH FOCUS AREA C)**

Strategies: What overarching approach(es) will be used to undertake this activity?

The Massachusetts State Laboratory Institute (MSLI) will ensure rapid and specific confirmatory testing through an on-going 24/7 on-call system that includes laboratory staff able to perform both molecular and conventional testing techniques for all Category A biologic agents as outlined in Focus Area C. This on-call system will be enhanced to include laboratory staff that can perform Level 2 chemical testing as outlined in Focus Area D.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Continue the development of MSLI protocols for 24/7 communications between the MDPH Bureau of Communicable Disease Control and MSLI on-call laboratorians.
- Ensure that the MSLI on-call system requires a laboratory staff response time 15-90 minutes for initial to modified full staffing using wireless telephone communication.
- Ensure that the on-call system has at least one staff member on call to perform each of the necessary Real-time Detection Polymerase Chain Reaction (RTD-PCR) techniques, Time Resolved Fluorescence (TRF) techniques, and conventional microbiology techniques as outlined



in Focus Area C.

- Enhance the on-call system to include at least one laboratory staff member who can perform molecular and conventional virology techniques as outlined in Focus Area C.
- Enhance the on-call system to include at least one laboratory staff member who can perform Inductively Coupled Plasma/Mass Spectrometry and Gas Chromatography as outlined in Focus Area C.

Timeline: What are the critical milestones and completion dates for each task?

- First three tasks are ongoing.
- Include virology staff in on-call system by 9/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MSLI staff will complete all tasks and the Laboratory Preparedness Coordinator will manage on-call schedule of staff.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

The MSLI will determine progress by assuring compliance with stated timeline and testing the on-call system through drills. Switchboard operator problem logs and after hours on-call problem logs will be monitored by QA/QC department and on-call protocols will be amended as necessary.

10. (Smallpox) Improve the adequacy of state and local public health surveillance and reporting capacities related to smallpox, such as active surveillance for rash illnesses, case contact tracing, and monitoring for adverse events following vaccination.

Strategies: What overarching approach(es) will be used to undertake this activity?

Enhanced active surveillance for adverse events in smallpox vaccinees will be done. Education of the dermatologic and infectious disease communities as well as ED personnel and infection control practitioners is essential regarding the careful confirmation of rash illness diagnoses, as well as the immediate need for notification of MDPH in these instances.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Tasks related to rash illness reporting are discussed in Critical Capacity 5.3 and 5.4. Active surveillance will be carried out on civilian smallpox vaccinees at day 21 through 28 post vaccination to determine if there were any adverse events, including rashes. All significant smallpox adverse events in the civilian sector will have VAERS forms completed. Providers will be required to report adverse events related to smallpox vaccine. Dissemination of smallpox vaccine adverse event information, including reporting and treatment will continue. New protocols will be developed to include guidance on differential diagnosis, contact tracing and expanded infection control procedures at the community and hospital levels. These materials will be shared with providers, as well as the dermatologic, infectious disease and infection control practitioner communities. Training and education of key partners will continue to increase recognition of smallpox-like rash illness, potential adverse events and contact tracing protocols.



Timeline: What are the critical milestones and completion dates for each task?

Implementation of individual case report form for varicella by 2/2004. Have protocols completed for adverse events, smallpox investigation, contact tracing and control measures and major partners trained by 8/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Immunization Program medical director will be responsible for clinical oversight, protocol development and consultation. The adverse events coordinator and smallpox nurse will ensure completion of the VAERS 1 and 2 forms, the active surveillance form for smallpox vaccinees, and assist with the development of materials around reporting of adverse events. The rash/varicella epidemiologist is responsible for enhancing surveillance efforts for rash illness.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Trainings held and mailings to hospitals (including EDs), infection control practitioners, LHDs, school nurses and providers will be completed. Internal and external protocols adverse events, smallpox investigation, contact tracing and control measures will be updated and distributed by August 2004. Have 21day active surveillance completed on at least 90 % of smallpox vaccinees. Have completed VAERS forms on 100% of significant events.

11. In coordination with local public health agencies, apply information technology according to established specifications, including NEDSS development or the NEDSS Base System, to develop or enhance electronic applications for reportable diseases surveillance, including electronic laboratory-based disease reporting from clinical and public health laboratories and linkage of laboratory results to case report information. (See Appendix 4 for IT Functions #1-5.) (**LINK WITH FOCUS AREAS C AND E, CROSS CUTTING ACTIVITY SURVEILLANCE AND INTEROPERABILITY OF IT SYSTEMS, Attachment X**)

Strategies: What overarching approach(es) will be used to undertake this activity?

Massachusetts is a NEDSS base system (NBS) state and is working closely with CDC to ensure that the proper hosting environment and staff are available for its implementation. Further, MDPH plans to perform a GAP analysis of the NBS to guarantee compatibility with state and local health authorities' business rules and security needs. In the interim, MDPH will also evaluate other Public Health Information Network (PHIN) compatible solutions.

However, until the NBS, or other compatible system, may be implemented, MDPH will migrate from its current MS Access based system to SQL server, and make additional enhancements to bring the database schema closer to that defined logically by HL7 RIM.

Additionally, coordinating the efforts of Focus Area C and Focus Area E, MDPH plans to design and develop an electronic laboratory reporting (ELR) system. This process will involve visiting hospitals and conducting a GAP analysis to identify what is needed for secure transmission of standard PHIN



compatible HL7 based messages. As an exemplary use case, MDPH foresees that laboratory data will be automatically received electronically into a temporary data store, where it will be cleansed and then linked to the appropriate record(s) within the PHIN compatible system.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Establish a hosting environment for NBS and other PHIN compatible systems, including but not limited to PVMS, MIIS and the Alert Network.
- Host NBS demonstration for key stakeholders including local health authorities, hospitals and other organizations.
- Perform GAP analysis of NBS and other PHIN compatible system(s).
- Deploy NBS, possibly in conjunction with other PHIN compatible systems.
- Migrate legacy data to PHIN logical data model.
- Establish appropriate interfaces (e.g. Electronic Laboratory Reporting (ELR) module)
- Provide training for appropriate entities.
- Maintain and support applications.

Timeline: What are the critical milestones and completion dates for each task?

- Hold demonstration of NBS for key stakeholders by 7/2003.
- MDPH will establish hosting environment by 10/2003.
- GAP analyses will be completed by 11/2003.
- Migrate legacy data by 12/2003
- Deploy pilot NBS, possibly in conjunction with other PHIN compatible systems by 3/2004.
- Begin ELR requirements gathering by 10/2003.
- Pilot ELR system and interfaces developed by 5/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH personnel and identified contractors in coordination with CDC will perform all involved tasks.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

MDPH has established committees including the IT Systems Steering Committee and the Technology and Standards Committee that serve as department monitors to evaluate project progress and ensure that the strategic initiatives of the Department are executed optimally and according to the proposed timelines.

12. In coordination with your public health laboratory, develop the capacity to apply molecular epidemiologic methods (e.g., pulsed field gel electrophoresis or sequence-based methods) to outbreak investigations and surveillance as appropriate. **(LINK WITH FOCUS AREA C)**

Strategies: What overarching approach(es) will be used to undertake this activity?

The MSLI molecular lab sections working with various infectious agents have experience with spoligotyping, MLVA, MLST, RFLP, PFGE, ribotyping and sequencing. The MSLI will continue to develop and implement molecular epidemiologic methods and will assist in the training of Division of Epidemiology and Immunization staff to better understand their use in outbreak investigations and



surveillance. The MSLI will continue to perform PFGE testing on the following organisms:

- *Escherichia coli* O157:H7, Shiga toxin positive *Escherichia coli*, *Salmonella* spp., Vancomycin Resistant *Enterococci* (VRE), Methicillin Resistant *S. aureus* (MRSA), *Shigella* spp., *B. pertussis*, Invasive *Streptococcus pneumoniae* and Group A *Streptococci* (GAS)
- The MSLI will also continue to perform antimicrobial resistance testing on the following organisms: *Escherichia coli* O157:H7, *Salmonella* spp., MRSA, *Shigella* spp., VRE, *Listeria* spp., *N. meningitidis*, *B. pertussis*, and GAS

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Apply multiple locus variable tandem repeat analysis (MLVA) and multilocus sequence typing (MLST) to different food-borne pathogens.

- Train additional staff to perform these molecular epidemiologic methods.
- Identify target genes for confirmatory PCR/ sequencing for each Category A agent.
- Continue to use PFGE testing for agents such as *E. coli* O157:H7; shiga toxin-producing, non-O157:H7 *E. coli*; *Salmonella* serotypes; *Shigella sonnei* and *Listeria monocytogenes*.
- Continue to conduct surveillance susceptibility testing to determine antimicrobial resistance trends and identification of unusual antimicrobial resistance profiles.
- Initiate the use of a MicroScan Walkaway, an automated bacterial/ susceptibility system, to allow for higher throughput of susceptibility testing.
- Initiate use of an automated ribotyping system, the Riboprinter®, for use in rapid identification of a multidrug- resistant strain of *S. Newport*
- Continue use of the Riboprinter® for rapid species identification of bacteria derived from spores found in biological threat letters after *Bacillus anthracis* has been ruled out by conventional microbiological methods.
- Evaluate the use of the Riboprinter® with custom antibiotic resistance gene probes to characterize chromosomal and plasmid DNA in *S. Newport* MDR- Amp C.
- Evaluate the use of the BAX® System for real-time PCR detection of *E. coli* O157:H7 and *Salmonella* spp. in stool.
- Continue on-going development, implementation and training of spoligotyping, RFLP and DNA sequencing to evaluate transmission of multi-drug resistant TB.
- Laboratory staff will be available to present on new methods to Division staff during pre-arranged training sessions.

Timeline: What are the critical milestones and completion dates for each task?

- Begin providing training on these molecular methods to additional staff by 12/2003.
- Develop custom Riboprinter probes to characterize bacterial species by 1/2004.
- Validate use of BAX System for identification of *E. coli* O157:H7 and *Salmonella* spp. in stool by 6/2004.
- Validate operation of MicroScan Walkaway Bacterial ID System by 9/2004.
- Laboratory staff will conduct two training sessions to Division staff by 5/1/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

- Sandra Smole, PhD (BioThreat Advanced Technology Laboratory Director): On-going



development, implementation and training of MLST and MLVA.

- John Fontana, PhD (Molecular Surveillance Laboratory Director): On-going development, implementation and training of PFGE and antimicrobial resistance surveillance activities.
- Alex Sloutsky, PhD (Director of Tuberculosis Laboratory): On-going development, implementation and training of spoligotyping, RFLP and DNA sequencing to evaluate transmission of multidrug resistant TB.
- Appropriate laboratory personnel will be responsible for presentations and trainings.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Competency of newly trained laboratory staff will be measured by regular proficiency assessment. Monthly MSLI/Bureau of Communicable Disease summaries using these methodologies in monitoring outbreaks and surveillance will include comparisons with conventional methodologies. Feedback will be collected from Division staff in response to trainings.

13. Integrate infectious disease surveillance by establishing relationship with state veterinary diagnostic laboratory. Evaluate database system for identification and tracking of zoonotic diseases. Conduct survey of veterinary practitioners regarding laboratory utilization and specimen submission practices.

Strategies: What overarching approach(es) will be used to undertake this activity?

Currently, Massachusetts does not have a state veterinary diagnostic laboratory. The Bureau of Animal Health (BAH) has contracted for veterinary diagnostic service for ongoing, routine disease control programs at the University of Connecticut on a fee for service basis. Since veterinary practitioners in Massachusetts use both private and governmental laboratories, a survey will be conducted of veterinary practitioners regarding database systems in use, laboratory utilization and submission practices. Survey data will be collected, analyzed, and stored confidentially on a central server at BAH. All the laboratories identified in the survey will be contacted by the BAH to ensure compliance with mandatory Massachusetts reporting requirements and to solicit their cooperation in reporting of non-mandatory laboratory information, preferably through the proposed web-based reporting system. Positive zoonosis reports will be shared with MDPH through postings in the Alert Network.

A sample of veterinary practitioners will be selected representing the scope of different types of software available at veterinary hospitals. A survey instrument will be developed to assess variables such as species, age of the animal, presumptive diagnosis, treatment, and outcome. Data collected will be later correlated with data reported to BAH between 7/2003 and 7/2004 to evaluate compliance with the reporting requirements.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- MVMA and MDPH will develop a survey instrument regarding database systems used in veterinary practices, laboratory utilization and submission practices.
- Data will be collected and analyzed.
- Clinical laboratories used by veterinary practices will be contacted.
- A mailing will be sent to clinical vet laboratories regarding reporting requirements.



- Laboratories will be trained regarding the use of Web-based reporting.
- Clinical variables will be evaluated from the data collected from a selected sample of veterinary practices and correlated with data reported to BAH.

Timeline: What are the critical milestones and completion dates for each task?

- A survey instrument will be developed by 9/2003.
- Data collected will be analyzed by 12/2003.
- Clinical laboratories will be contacted by 12/2003.
- Mailing regarding reporting requirements will be sent by 12/2003.
- Training of laboratories regarding Web-based reporting will be completed by 2/2004.
- Data to evaluate clinical variables will be collected from May-June, 2004 and correlation will occur by 7/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

All tasks will be assigned to the BAH Veterinary Epidemiologist and/or Database Manager.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Documentation of completion of survey, compilation of survey results, contact with laboratories, initiation of disease reporting from laboratories, report on database systems in veterinary practices.

ENHANCED CAPACITY #4: To rapidly detect and obtain additional information about bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies through other core, cross-cutting health department surveillance systems such as vital record death reporting; medical examiner reports; emergency department, provider, or hospital discharge reporting; or ongoing population-based surveys. (See Appendix 4 for IT Functions #1-4.)

1. Enhance the timeliness and completeness of a system, (e.g., death reporting, data kept by medical examiners/coroners, emergency responders, poison control centers, 911 systems, pharmacies, clinics, and veterinarians) through electronic reporting to detect or respond to a terrorist attack. (See Appendix 4 for IT Functions #1-5.)

Strategies: What overarching approach(es) will be used to undertake this activity?

Approach 1: Evaluate the medical examiner-based surveillance system currently in use in New Mexico (Med-X).

Approach 2: The existing volume-based surveillance system in Boston will be expanded, and additional surveillance information sources will be identified and evaluated.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

**Approach 1:**

- Arrange a workshop/presentation on Med-X for state epidemiologists, medical examiners, and other key stakeholders.
- Conduct an analysis to determine if the implementation of Med-X in Massachusetts is feasible.

Approach 2:

- *Unexplained death registry:* The continued development of a registry of unexplained deaths (age > 1 year and < 49, with no co-morbidity, and possible infectious disease cause – i.e. pneumonia in an otherwise healthy 35 year old) in Boston will include a quarterly review of the death certificate database at the Boston Public Health Commission (BPHC) and a reporting algorithm for the burial permits office for timely notification with a public health nurse performing follow-up of all unexplained deaths with a possible infectious disease etiology.
- *Boston EMS:* Automatic data integration from Boston EMS into the existing volume based surveillance system will continue.
- *Poison Control Data:* Connectivity will continue to be developed with the poison control center, for data exchange.
- *Expansion of Volume-Based Surveillance System:*
 - BPHC will continue to expand the IT infrastructure of the volume-based surveillance system to increase the ability to bring additional sites and sources of data into the system.
 - BPHC will evaluate a medical records database that contains 3-4 years of data for its usefulness in addressing the homeless population in Boston, which often accesses medical services outside the traditional health care system.

Timeline: What are the critical milestones and completion dates for each task?



Approach 1:

- By 10/30/03, Med-X will be introduced via a presentation or workshop.
- By 3/30/04, a feasibility analysis of implementing Med-X in MA will be completed.

Approach 2:

- *Registry of Unexplained ID Deaths*
 - Complete the evaluation of historical data by 1/2004 and establish procedure for quarterly review by 6/2004. Complete written algorithm and develop written follow-up protocol by 10/2003 and institute protocol by 12/2003.
- *Boston EMS*
 - IT evaluation by 10/2003 and the development and implementation of procedure by 1/2004
- *Poison Control*
 - Enhance communication and data feedback by 1/2004
- *Expansion of Volume Based Surveillance System*
 - Identify sites by 10/2003, contact sites by 11/2003, assess data quality at sites and IT evaluation by 1/2004, establish thresholds by 3/2004, develop follow-up plans and improve feedback to providers by 3/2004, incorporate sites into the surveillance system by 6/2004.
 - Assess quality of data by 12/2003, IT evaluation by 1/2004, establish thresholds by 3/2004, develop follow up plans by 3/2004, incorporate sites in the surveillance system by 6/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Approach 1:

- Division of Epidemiology and Immunization staff epidemiologists

Approach 2:

- *Registry of Unexplained ID Deaths:* BPHC staff CD Staff, Burial Permits staff
- *Boston EMS:* Boston EMS, BPHC IT staff and BPHC CD staff
- *Poison Control:* BPHC CD staff
- *Expansion of Volume-Based Surveillance System:* BPHC CD staff, BPHC IT staff, participating site staff and MDPH

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Approach 1:

- Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

Approach 2:

- Assess timeline calendar for progress throughout project and establish team meetings to review status and identify barriers

ENHANCED CAPACITY #5: To rapidly detect and obtain additional information about bioterrorism,



other infectious disease outbreaks, or other public health threats or emergencies by accessing potentially relevant pre-existing data sets outside the health department, or through the development of new active or sentinel surveillance activities.

1. Develop and evaluate surveillance to rapidly detect influenza-like illness (ILI) and distinguish possible bioterrorism-caused illness from other causes of ILI.

Strategies: What overarching approach(es) will be used to undertake this activity?

In Boston, follow up of excess respiratory illness identified by the volume based surveillance system will be enhanced and additional surveillance information sources for respiratory illness will be evaluated.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Enhanced follow-up on ILI reporting: Revise data collection forms currently used by public health nurses during follow-up and review follow-up procedures for volume exceedances.
- Anti-viral Pharmaceutical Monitoring: Explore the utility of surveillance of sales of influenza antiviral medications, as a pilot project, at a large, local hospital based pharmacy.

Timeline: What are the critical milestones and completion dates for each task?

- Enhanced follow-up on ILI reporting: Revise data collection forms currently used by public health nurses during follow-up and review follow-up procedures for volume exceedances by 10/2003.
- Antiviral Pharmaceutical Monitoring: Identify data source by 10/2003, institute data exchange protocol by 11/2003, evaluate data (11/2003 – 7/2004) and perform outcome evaluation by 8/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

BPHC CD staff will be responsible for all activities.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Assess timeline calendar for progress throughout project and establish team meetings to review progress and identify barriers

2. Develop active, laboratory-based surveillance for invasive bacterial diseases (for example, *N. meningitidis*, *B. anthracis*, *Y. pestis*, and other causes of sepsis or meningitis). **(LINK WITH FOCUS AREA C)**

Strategies: What overarching approach(es) will be used to undertake this activity?

MDPH, Division of Epidemiology and Immunization will enhance and expand laboratory-based active surveillance of select invasive organisms (including possible BT agents) throughout Massachusetts. MDPH epidemiologists have visited 73 out of 79 Massachusetts hospital laboratories to discuss the active surveillance and establish data submission protocols.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- MDPH will visit the remaining 6 hospitals, as well as other hospitals that require additional assistance.



- Appropriate resources will be provided through this cooperative agreement and the HRSA cooperative agreement (Critical Capacity 4-2), for hospital laboratory information system (LIS) personnel to establish weekly or monthly disk reporting systems.
- MDPH will provide an annual forum (2nd Annual Active Surveillance Workshop) for infection control practitioners, microbiology senior staff members and IT staff to learn about surveillance activities and network with colleagues
- IT staff at MDPH will continue to assist laboratory and LIS personnel with disk and electronic submission specifications to enhance data transfer.
- MDPH epidemiologists will analyze and report data to hospital participants through the *Active Surveillance Quarterly* (project newsletter).
- MDPH epidemiologists will visit with laboratories, and describe the active surveillance project to appropriate hospital personnel.
- Disk submission specifications will be generated by the Department's IT staff and disseminated to hospital LIS and microbiology personnel.

Timeline: What are the critical milestones and completion dates for each task?

- MDPH epidemiologists shall conduct site visits with non-participating laboratories by 12/31/2003.
- Funds will be available to hospitals to assist microbiology and IT staff to submit required data via disk or other electronic means and the necessary data elements and specifications to do so will be in place by 1/1/2004.
- MDPH will hold the 2nd Annual Active Surveillance Workshop/Conference for MA hospital infection control and laboratory personnel by 10/30/2003.
- IT staff at MDPH will continue to assist laboratory and LIS personnel with disk and electronic submission specifications to enhance data transfer as needed.
- The *Active Surveillance Quarterly* will be published on a quarterly basis.
- All laboratories (approximately 79) will be participating in the Massachusetts active surveillance system by 6/30/2004.
- DISK-BASED surveillance data will be received by the Division of Epidemiology and Immunization on a weekly or monthly basis by 8/31/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH epidemiologists will be responsible for arranging site visits with laboratories, describing all aspects of the active surveillance project to appropriate hospital personnel and developing and distributing the *Active Surveillance Quarterly* and other data analyses. Disk submission specifications will be generated by the Department's IT staff and disseminated to hospital LIS and microbiology personnel. Appropriate MDPH agencies will address many aspects of emergency preparedness and will include the integration of hospital-based data into state level surveillance systems.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

On a periodic basis, MDPH will evaluate the success of this activity by reviewing the data submissions of each hospital-based laboratory. Timeliness, completeness, method of submission and overall



participation will be continuously monitored.

3. Develop and evaluate surveillance for encephalitis and meningitis or unexplained critical illnesses or deaths. Link clinical reports and laboratory test results. **(LINK WITH FOCUS AREAS C AND E)**

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

4. Develop and evaluate surveillance for indicators of terrorist events, and catastrophic infectious diseases, including hospital admissions, hospital beds occupied (or available), intensive care unit admissions, or emergency department visits. **(LINK WITH FOCUS AREA E)**

Strategies: What overarching approach(es) will be used to undertake this activity?

Approach 1: Continued development of a statewide pediatric, emergency department-based, syndromic surveillance system for the early detection of bioterrorism events.

- Develop the information technology needed to process a live stream of real time surveillance information, extracted from existing hospital information systems.
- Develop statistical methods for detecting unusual clusters of disease in time and in space.
- Evaluate the performance of the detection of naturally occurring outbreaks and of simulated bioterrorism events.

Approach 2:

Field-based surveillance will continue to be developed in Boston with the identification and evaluation of additional surveillance information sources for use in high profile events such as the Boston marathon, July 4th celebration and the Democratic National Convention.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Approach 1:

- Fully automate the data collection system at Children's Hospital Medical Center (CHMC).
- Fully automate the data collection at the Beth Israel Deaconess Medical Center (BIDMC).
- Adjust data for periodic cycles based on historical and recent patterns.
- Implement scalable privacy protection for home address data that will be geocoded to yield



latitude and longitude coordinates.

- Detect geographical clusters of disease by adjusting the data for population density and regional utilization patterns.
- Generate a continuously updated, web-based display, continuously accessible to MDPH and local health officials.
- Generate a daily electronic summary report in a standardized and sharable format for MDPH and local health officials.
- Develop an alerting strategy for MDPH officials.
- Conduct an assessment of the information systems at other hospitals.

Approach 2:

- Continue trials of field based surveillance at large public events using RFID technology and evaluate outcomes.
- Boston EMS – Pilot project on the use of “ER diversion” data.
- Identify data and assess patterns and evaluate the utility of the data.

Timeline: What are the critical milestones and completion dates for each task?

Approach 1:

- Assess information systems at four additional hospitals by 12/1/2003.
- The data collection processes at CHMC are fully automated by 2/1/2004
- The data collection processes at Beth Israel Deaconess Hospital are fully automated by 4/1/2004.
- Initial work has been performed to integrate one or two more sites into the system by 5/1/2004.
- MDPH officials can access, over the web, a secure report of daily, weekly, and monthly activity by 6/1/2004.
- An automated alerting strategy is implemented by 9/1/2004.
- System performance will be also be rigorously evaluated using simulated outbreaks, as well as measuring the power for detection of known events such as ILI clusters.

Approach 2:

- Trial RFID technology used at July 4 event (2003) will have outcomes evaluated by 9/2003.
- “Hours on divergence” data will be identified by 9/2003 and usefulness of the data will be evaluated by 12/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Approach 1:

Dr. Mandl, the principal investigator, will supervise all aspects of the project. Dr. Karen Olson will be responsible for data quality management, data processing, and system evaluation. Ron Siewert, lead software engineer will automate data acquisition, storage, scalable privacy protection, and linkage to Alert Network. Shiu-Chung Au will develop data visualization methods, generate reports, and implement alerting strategies.

Approach 2:

All tasks will be accomplished by Boston EMS and BPHC CD staff.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Approach 1:

Dr. Mandl and The Children's Hospital group will maintain close contact with MDPH personnel, present at regularly scheduled MDPH meetings, attend Alert Network meetings and engage the Alert Network leadership in project decision-making. Regular written reports will be generated communicating project status, particularly with respect to the critical milestones and completion dates listed above.

Approach 2:

Assess timeline calendar for progress throughout project and establish team meetings to review progress and identify barriers.

5. Evaluate existing databases (for example, data kept by medical examiners/coroners, emergency responders, poison control centers, 911 systems, pharmacies, clinics, and veterinarians) for use in surveillance systems. **(LINK WITH FOCUS AREA E)**

Strategies: What overarching approach(es) will be used to undertake this activity?

Approach 1: The continued development and evaluation of syndromic surveillance for the early detection of BT events using an HMO's electronic medical record and pharmacy information system data (currently in third full year of current cooperative agreement).

- Investigators at the Harvard Medical School/Harvard Pilgrim Health Care Department of Ambulatory Care and Prevention (DACP) will maintain and enhance the current Harvard Vanguard/Harvard Pilgrim real time surveillance system that uses internet-based graphical and statistical methods for reporting the frequency of eight syndromes of public health interest. In addition, they will develop and refine alternative statistical methods for surveillance of real-time data to help provide early warnings of BT attacks and other acute health events.

Approach 2: The continued development and evaluation of the use of multiple delivery systems serving overlapping populations for surveillance of acute health events.

- Investigators at the Harvard Medical School (HMS)/ Harvard Pilgrim Health Care (HPHC) Dept. of Ambulatory Care and Prevention (DACP), Children's Hospital Medical Center (CHMC) and Harvard School of Public Health (HSPH) will integrate the signal detection and reporting capabilities of existing separate real-time systems for identifying unusual clusters of BT and other acute health events, and also to improve the efficiency of reporting to the MDPH. The existing systems whose data will be employed for this activity use ambulatory visits at Harvard Vanguard Medical Associates (HVMA) /HPHC and at the EDs of CHMC and Beth Israel Deaconess Medical Center. The overarching approach is to aggregate and analyze data from clinically and administratively separate, but geographically overlapping, real-time automated public health surveillance systems. The fundamental aim of the project is to improve the ability to detect changes in the incidence of potential BT-related syndrome episodes in the population of metropolitan Boston and it is expected that this work will have direct application for development of national public health information



infrastructure based on the coalescence of information from the patchwork of regional surveillance systems currently under development.

Approach 3: Updating, standardizing, and integrating the databases within the Massachusetts Department of Food and Agriculture (MDFA), to enable effective use of veterinary disease information for planning and control purposes.

- The principal focus of Approach 3 will be on data collected by the Bureau of Animal Health to ensure that all information collected relative to animal census-taking, routine disease surveillance, regulatory disease control programs, zoonotic disease investigations, animal disease investigations, licensing applications, and complaints is reliably captured, manipulable and retrievable for analysis, generation of reports, mapping and disease control purposes. Furthermore, it is intended that the relevant data be managed so that it can be shared with MDPH for the purpose of BT preparedness planning and response activities. In addition, it is intended that data from other divisions in the MDFA can also manage data in the same compatible departmental database so that information on food crops, pesticides, food processing facilities and other regulated entities can be readily retrieved, manipulated and analyzed in the event that BT activities are focused on food crops, milk production facilities, or other processed food items or facilities.

Approach 4: BPHC will identify and evaluate existing databases for use in surveillance in collaboration with STF members.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Approach 1: The existing longitudinal database will be updated to include 2003 encounter and membership data and refit existing prediction models. Information about HVMA's Blue Cross/Blue Shield, Tufts Health Plan and Neighborhood Health Plan members will be obtained, if technical barriers to accessing their membership information can be overcome.

In addition:

- NEDSS compliant reports, as available, applicable, and desired by the MDPH, will be developed.
- Statistical methods will be developed and assessed that analyze the data each day. The current model will be refined to be sensitive to both an increased level of clustering and small increases in non-clustered contacts. We continue to explore alternative statistical approaches, such as the spatio-temporal scan statistic.
- The performance of these signal detection methods and thresholds will be tested through simulation methods.

Approach 2:

- Develop a standard data format, compliant with established international standards, for sharing data and signals across surveillance systems.
- Establish, for each data source separately, thresholds for alarms that result in urgent notification of MDPH leadership.
- Establish the normal, baseline distribution of the integrated datasets with respect to the DACP and CHMC methods.
- Retrain the models developed by each group (Generalized Linear Models, time series, spatial



cluster detection) on the integrated dataset.

- Using receiver operator curves, measure the performance of algorithms in terms of sensitivity and specificity, under the three conditions: separate data, integrated data, and integrated signal.

Approach 3:

- Recruit an appropriate vendor to evaluate the existing database systems in MDFA and propose a plan for updating and modernization, which includes assurance of compatibility with MDPH data systems. .
- Select an appropriate vendor and implement the evaluation and modifications.
- Hire a database manager and data entry worker to ensure that the new system is properly implemented and maintained and that data is properly entered and managed.
- Conduct a test exercise to ensure that relevant data is accessible within MDFA and effectively linked with MDPH.

Approach 4

- In conjunction with Beth Israel Deaconess and Boston Medical Center, BPHC will continue to evaluate chief complaint data as a public health surveillance tool.
- BPHC will work with CHMC to establish a procedure for BPHC to access the CHMC surveillance system data.
- Identify a participating site and obtain laboratory, volume, and ICD 9 data.

Timeline: What are the critical milestones and completion dates for each task?

Approach 1:

- Specify (with MDPH) (1a) thresholds for existing cluster definitions and (1b) mechanisms for automatic notification by 9/30/03.
- Specify (with MDPH) new cluster definitions by 9/30/03.
- Implement thresholds for existing cluster definitions and mechanisms for automatic notification by 12/31/03.
- Implement new cluster definitions by 12/31/03.
- Add information about HVMA's other payers to surveillance database by 3/31/04.
- Implement spatial scan statistic screening for clusters by 6/30/04.
- Test with simulations by 8/31/04.

Approach 2:

- Develop a standard data format, compliant with established international standards, for sharing data and signals across surveillance systems by 9/30/03.
- Establish, for each data source separately, thresholds for alarms that result in urgent notification of MDPH leadership by 11/30/03.
- Establish the normal, baseline distribution of the integrated datasets with respect to the DACP and CHMC methods by 1/31/04.
- Retrain the models developed by each group (Generalized Linear Models, time series, spatial cluster detection) on the integrated dataset by 4/30/04.
- Using receiver operator curves, measure the performance of algorithms in terms of sensitivity and specificity, under the three conditions: separate data, integrated data, and integrated signal by 8/31/04.

**Approach 3:**

- Preparation of RFR by 9/2003 and selection of vendor by 10/2003.
- Complete assessment of existing database system by 11/1/2003.
- Hire database manager by 12/1/2003.
- Implement upgrade of system by 2/1/2004 and conduct test exercise by 4/15/2004.

Approach 4:

- Interim progress report on Chief Complaint Data by 12/2003 and final by 6/2004.
- Develop procedure to link with CHMC by 12/2003 and implement by 3/2004.
- Identify a participating lab by 9/2003. Obtain laboratory, volume, and ICD 9 data by 10/2003 and evaluate data by 3/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Approach 1:

Richard Platt, MD, MSc, provides overall oversight of this project

Ken Kleinman, ScD, leads the development of signal detection and analysis strategies.

Allyson Abrams, MS, assists with the development of statistical approaches.

Martin Kulldorff, PhD works on the development of signal detection and analysis strategies.

Virginia Rêgo, MS, MPH, supports day-to-day activities of this project.

Ross Lazarus, MD, leads day to day activities including development of algorithms for syndromic surveillance, website development and maintenance, and procedures for monitoring.

Approach 2:

Richard Platt, MD, MSc, will work with the co-investigators to provide overall oversight for this project.

Kenneth D. Mandl, MD, MPH, will be the CHMC investigator and will oversee all grant-related activities at Children's.

Marcello Pagano, PhD, will be responsible for biostatistical analysis/evaluation of the real-time surveillance results. His focus will be to optimize the use of addresses in surveillance data.

Ken Kleinman, ScD, will expand his work on developing and applying signal detection and analysis strategies to include multiple streams of data in overlapping regions.

Allyson Abrams, MS, will assist Dr. Kleinman in all the above-named tasks.

Ross Lazarus, MD, will work with Dr. Mandl and others in fulfilling the first project task.

Katherine Yih, PhD, will be the senior epidemiologist working with Drs. Platt, Kleinman, and Mandl to coordinate the development and implementation of the multi-center activity.

Virginia Rêgo, MS, MPH, will manage the grant's finances and act as a liaison between the MDPH, HPHC, CHMC and HSPH.

Karen Olson, PhD, will work on all statistical analyses.

Approach 3:

Chief, Professional Staff and Database Manager from MDFA Bureau of Animal Health will be responsible for all activities.

Approach 4:

- Interim progress report (BPHC CD staff, Beth Israel Deaconess and Boston Medical Center);
Final report (BPBC CD staff, Beth Israel Deaconess and Boston Medical Center)



- Linkage with CHMC: Develop procedure (BPHC CD staff, and CHMC); Implement procedure (BPHC CD staff and CHMC)
- Lab Data: all tasks by BPHC CD staff

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Approach 1: Progress will be determined by meeting the completion date for each critical milestone.

Approach 2: The agency will determine the progress of this activity by monitoring whether the critical milestones are met by their completion dates.

Approach 3: Successful recruitment of vendor, implementation of new database system, recruitment of database manager, successful execution of test exercise.

Approach 4: Develop a timeline for progress and establish team meetings to review progress and identify barriers.

II. PUBLIC HEALTH EPIDEMIOLOGIC INVESTIGATION AND RESPONSE CAPACITIES

CRITICAL CAPACITY #6: To rapidly and effectively investigate and respond to a potential terrorist event as evidenced by a comprehensive and exercised epidemiologic response plan that addresses surge capacity, delivery of mass prophylaxis and immunizations, and pre-event development of specific epidemiologic investigation and response needs.

1. Confirm that an epidemiological response coordinator for bioterrorism, other infectious disease outbreaks, and other public health threats and emergencies has been designated at the appropriate state and/or local levels.

Strategies: What overarching approach(es) will be used to undertake this activity?

A Bioterrorism Program Coordinator for the MDPH Bureau of Communicable Disease Control has been funded through the existing cooperative agreement since 1999. The position coordinates BT activities with existing infrastructure for surveillance and epidemiology program activities and other CDC programs and also assists the state response coordinator.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- The BT Program Coordinator will continue to organize grant components and activities related to epidemiology and surveillance.
- The BT Program Coordinator will continue to collaborate with the other Focus Areas and present updates of activities to the BT Advisory Committee.

Timeline: What are the critical milestones and completion dates for each task?

All activities on-going.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization BT Program Coordinator.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

As Focus Area B activities are implemented, successful progress towards this objective will be achieved.

2. With local public health agencies, coordinate all epidemiologic response-specific planning in this section with your jurisdiction's overall planning conducted in Focus Area A, and with hospital preparedness activities being facilitated by the Health Resources Services Administration.

Strategies: What overarching approach(es) will be used to undertake this activity?

The Focus Area B Working Group, has representation from over 75 different organizations that contributes to effective planning in epidemiology and surveillance. LHD representatives will continue to add direction in regards to local response issues. The Epidemiology and Infectious Disease Response Subgroup of this working group will continue to provide direction for epidemiologic response-specific planning. See Focus Area A for additional activities related to planning and response and the development of emergency response plans.

Disease specific and situation specific epidemiologic response planning is a critical component of the operational aspect of the Division of Epidemiology and Immunization. Standard Operating Procedures (SOPs) continue to be developed and enhanced to be able to respond effectively and in a coordinated manner to any infectious disease emergency situation. All epidemiologic response planning is coordinated with overall emergency preparedness planning that is discussed in Focus Area A.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Continued meetings of the Focus Area B Working Group.
- Continued progress and updating of the Epidemiology Program SOP manual.
- Sharing of SOPs with infection control practitioners for comment and review.
- Distribution of SOP Manual to all epidemiologists within the Epidemiology Program.
- Availability of SOP Manual to be shared with infection control practitioners.

Timeline: What are the critical milestones and completion dates for each task?

- Activities 1 & 2 are ongoing.
- Comments from infection control practitioners received by 6/2004.
- SOP manual will be distributed to all epidemiology program staff By 7/2004.
- SOP manual will be distributed to interested infection control practitioners by 8/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization program staff, MDPH Emergency Response Coordinator.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of



the milestones according to the timeline above. The Needs Assessment of emergency preparedness and response capabilities is currently underway. MDPH will analyze the data collected from the survey to determine existing capacity and to identify areas that must be improved to reach standard benchmarks.

3. a. Provide ongoing specialized epidemiology investigation and response training for state and local public health staff (including epidemiology response teams) who would respond to a bioterrorism event. **(LINK WITH FOCUS AREA G, CROSS CUTTING ACTIVITY EDUCATION AND TRAINING Attachment X)**
- b. Evaluate bioterrorism epidemiologic response training for state and local public health agency personnel, healthcare providers, policy makers, law enforcement officials, and others who would be involved in responding to an event (drills/exercises).

Strategies: What overarching approach(es) will be used to undertake this activity?

- The Needs Assessment of emergency preparedness and response capabilities is currently underway, as described in Focus Area A. Data collected from the survey will be used to determine existing capacity and to identify areas that must be improved to reach standard benchmarks. Based on the results of this assessment, programs to correct deficiencies in epidemiologic investigation and response will be developed, including trainings directed at law enforcement, first responders, health care providers and other key individuals.
- In order to further train epidemiologists at the state and local level, health agents, public health nurses and infection control practitioners, an intensive training program will be developed to teach the principles of epidemiology and surveillance. This program will be similar to the Epidemiology In Action Course developed and presented by Emory University. MDPH epidemiologists will also continue to be offered continuing education opportunities on a bi-weekly basis, CDC sponsored satellite trainings and various conferences and seminars to further knowledge on specific disease topics.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Provide epidemiologic input to the needs assessment survey tool.
- Pilot-test survey for the needs assessment.
- Conduct data collection and analysis that will give an accurate picture of current capabilities for epidemiologic response and a foundation to begin to develop trainings to address weaknesses.
- Develop content for intensive epidemiology and surveillance training course.
- Administer epidemiology and surveillance training course.

Timeline: What are the critical milestones and completion dates for each task?

- By 9/2003 attend meetings of the needs assessment working group to provide guidance.
- By 10/2003 complete the administration of the pilot test to a subsection of each region of the state.
- By 11/2003 begin training program development to correct weaknesses in epidemiologic response.
- By 4/2004 completed research and development for training course.



- By 8/2004 complete administration of training course to at least 50 individuals.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

- See Focus Area A for needs assessment responsibilities.
- Training and Education is the responsibility of the Focus Area G Working Group and the Health Education Unit of the Division of Epidemiology and Immunization.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

4. Develop the capacity to track the degree to which persons who have not been exposed to a potential terrorist or emerging infectious agent seek acute care at health care facilities.

Strategies: What overarching approach(es) will be used to undertake this activity?

The capacity to perform such tracking will be developed by implementing a functional real-time communication system with health care facilities that provide acute care throughout the state (e.g., Alert Network, broadcast fax). On a specific event and/or agent basis, the utilization of acute care facilities by non-exposed persons (i.e., by the “worried well”) for treatment related to the event and/or agent will be tracked by either or both of:

- Monitoring the number of persons seeking care at facilities in the identified catchment area of the event/exposure area who indicate they are seeking care because of the event and/or agent and who do not report an appropriate exposure
- Monitoring the proportionate increase at facilities in the identified catchment area of the event/exposure area in visits for specified conditions (related to the event and/or agent) relative to the baseline for each facility among persons not identified as having been exposed to the event/agent.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

For tracking capacity development:

- Implement the Alert Network statewide, with broadcast fax as a back up.
- Encourage health care facilities to monitor acute care visits by relevant categories to establish baselines.

For implementation of tracking if an emerging infectious agent of concern is identified or a potential terrorist event occurs:

- Identify facilities in the catchment area of the event or in the exposure area for the agent.
- Contact these facilities using the Alert Network and/or broadcast fax to inform them of the agent/event, provide relevant information for diagnosis and treatment, and provide a survey tool for tracking “worried well” in addition to tracking exposed individuals.

Timeline: What are the critical milestones and completion dates for each task?

- For implementation of the Alert Network, see Focus Area E.



- For tracking capacity development, the request to health care facilities to establish baselines for various categories of acute care visits will be sent to all such facilities in Massachusetts by 10/1/2003. The tasks related to implementation of tracking for specific events/agents will be carried out within hours to days of the decision to implement such tracking, as appropriate.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Alert Network development coordinator, the Epidemiology Program BT Coordinator, and the MDPH Division of Epidemiology and Immunization staff will complete all tasks.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

- See Focus Area E for Alert Network development evaluation.
- Progress toward successful completion of the overall activity will be measured by successful completion of each task.

5. In coordination with appropriate state and local agencies responsible for food, water, and air safety, develop or ensure capacity of public health system to respond in a timely and appropriate manner to a food-, water-, or air-borne illness or threat.

Strategies: What overarching approach(es) will be used to undertake this activity?

The MDPH Food Protection Program, working in conjunction with the MA Department of Food and Agriculture (MDFA), the MA Department of Environmental Protection (MDEP), the Focus Area B Food Vulnerability Working Group, and the Northeast Region Food Security Committee (a committee of the Northeast Food and Drug Officials Association) will develop a multi-faceted, coordinated approach to preventing and responding to food-related illnesses and threats.

The MDFA has regulatory oversight over a large number of animal and crop operations in the state, will be able to provide information on locations of susceptible commodities or species as they relate to a specific BT agent; provide improved trace back and trace forward capabilities; and, better assist in coordinating responses.

MDFA has undertaken a systematic assessment of dairy farms relative to their vulnerability to bioterrorism through the efforts of the biosecurity coordinator and the risk assessment officer/dairy inspector. The biosecurity coordinator is also evaluating vulnerabilities to bioterrorism in livestock enterprises other than dairies. When these assessment are completed, summary reports relative to each industry will be produced and will serve as the basis for outreach and education to dairy farmers and other livestock producers relative to enhanced biosecurity, facility security, disease recognition and control procedures.

Through a coordinated interagency effort, MDPH and MDEP ensure safety and potability of public water supplies in Massachusetts. According to Massachusetts General Law Chapter 111: s.160B, “if any such order of the department of public health conflicts with any order of the department the order of the department of public health shall take precedence.” To this end, MDPH and MDEP meet monthly



to coordinate efforts for developing response plans and activities. These two groups are mandated to protect the public health with respect to prevention of waterborne illness.

The MDEP Wall Experimental Station (WES) is the Massachusetts environmental testing laboratory. WES will develop and/or validate methods for testing bio-terrorism agents that are identified on the CDC Bioterrorism Biologic Agent list. In addition, WES will develop capability and capacity for testing water and air samples for these agents, and maintain current capacity for analyzing water samples for typical microbiological contaminants in water that are of concern to public health. Objective one for the next grant year is to work as a partner with the Massachusetts State Laboratory Institute (MSLI) and develop collaborations with CDC, EPA and FDA laboratories and identify appropriate methods for validation for high priority agents as identified by CDC.

- Develop analytical protocols to determine the appropriate sampling procedures required to collect, concentrate, isolate and presumptively identify *Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis* and *Brucella* spp. in drinking water and surface water.
- Develop analytical protocols to determine the appropriate sampling procedures required to collect, concentrate, isolate and presumptively identify *Bacillus anthracis*, *Yersinia pestis*, *Francisella tularensis* and *Brucella* spp. in ambient air.
- Develop a protocol using non-pathogenic surrogate organisms to validate the analytical protocols.
- Conduct experimental procedures using surrogate organisms to evaluate protocols and procedures to determine conditions for best test performance.
- Provide scientific staff to participate in various DPH Workgroups for bioterrorism preparedness including the Laboratory, Alert Network, Surveillance and Epidemiology and Risk Communication Workgroups.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

MDPH

- Coordinate and perform vulnerability assessments of the food supply on a statewide basis and maintain a secure database of assessments.
- Coordinate on a regional basis; the collection of foodborne illness reports, consumer complaints, and food tampering reports through the use of standardized reporting systems.
- Enhance the Program's trace-back capabilities.
- Develop statewide and regional response plans, including a state and regional directory of food emergency personnel, and capacity to respond to a food related event.
- Develop a state and regional food security risk rating system.
- Conduct and improve environmental investigations associated with food related illnesses and events.
- Conduct and improve sampling procedures related to food related illnesses and events.
- Provide food security education and resources through the development of guidelines, brochures, and fact sheets.
- Incorporate food security awareness in Program sponsored/provided training events, especially those related to foodborne illness investigation training.
- Develop and deploy a computerized, web-based communication, surveillance, inspection, and



assessment system to enhance the Program's ability to respond and contain a food related event.

MDFA:

- Perform vulnerability assessments on farms.
- Compile findings in a departmental report.
- Develop outreach and education activities.
- Implement outreach and education activities.

MDEP:

- Conduct ongoing water supply coordinating workgroup meetings.
- Identify key contacts at water supply agencies in the event of an incident.
- Develop information transfer mechanism in the event that sensitive information is required for public health actions.
- Establish sample collection protocol for determining impacts to water supplies.
- Develop a geographic information system to identify filtered/unfiltered surface water supplies and other relevant information.

MDEP WES:

- Describe current capabilities and capacities, and laboratory facilities and equipment including Biosafety and security procedures relevant to the proposal.
- Describe the strategy and methodological approach for addressing the project objectives.
- Define a timeline and critical milestones for the project including,
 - Development and implementation of a QA program, including proficiency testing, for sample collection and analysis.
 - Development and implementation of plans and procedures to integrate this environmental sampling service with the MSLI, Bureau of Communicable Disease Control, and Bureau of Environmental Health Assessment (BEHA), with state and local police and fire, with emergency response, and with other services responding to BT incidents.
 - Development and implementation of security and safety operational plans and procedures; provision of security and safety training to staff involved in this program.

Timeline: What are the critical milestones and completion dates for each task?

MDPH

- Assessment and review of all food producing entities will be on going.
- Relevant forms will be collected, base-line information established and program implemented by 3/1/2004.
- Staff will be trained on an on-going basis.
- Regional template will be developed, the template modified for MA use and then distributed by 6/1/2004.
- Regional risk parameters will be established by 3/1/2004, modified for MA use with risk assessment begun by 6/1/2004.
- Standards will be developed and investigatory staff trained on an on-going basis.
- Necessary equipment will be identified and procured by 9/1/2004.



- Materials will be developed and disseminated on an on-going basis.
- Modules will be developed on an on-going basis.
- Developer will be identified; assistance will be given in the development and modification of the system, hardware purchased and system field tested by 12/1/2004.

MDFA

- Risk assessment of farms will be done 7/2003 through 10/2003.
- Compilation of findings in departmental report will be done by 11/2003.
- Development of outreach and education activities by 11/2003 –12/2003.
- Implementation of outreach and education activities 1/2004-3/2004.

MDEP:

- Propose calendar of meeting dates (ongoing).
- Conduct meetings (ongoing).
- Generate list of contacts for water suppliers by 9/2003.
- Request data/information contact at water supply organizations by 10/2003.
- Identify contaminants of concern for protocol development.
- Develop contaminant and specific protocol(s) by 6/2004.
- Determine latitude/longitude for each water supply by 6/2004.
- Incorporate all data information geographical information system by 2/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH:

The Division of Food and Drugs BT Coordinator, the Food and Drug Inspector, in-kind Food Protection Program staff and the Veterinary Health Officer will be responsible for all tasks. BEHA staff will assist where appropriate.

MDFA:

Biosecurity Coordinator, Dairy Inspectors and Livestock Inspectors will be responsible for all tasks.

MDEP:

MDEP staff will be responsible for all MDEP tasks.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

The success of the Program's efforts will be measured by the timely development, deployment and utility of the work products cited above.

6. Develop or acquire information and fact sheets about bioterrorism, other infectious disease outbreaks, other public health threats and emergencies, and other relevant technical information for public use in a terrorist event. **(LINK WITH FOCUS AREA F)**

Strategies: What overarching approach(es) will be used to undertake this activity?

Appropriate written information, including fact sheets, question & answer sheets and other relevant technical information, will be acquired or produced to address BT generally, biological agents of concern specifically, and other public health threats and emergencies for the following target audiences: public



health officials; health care providers; and the general public. Information will be disseminated as is appropriate, e.g. mailings, website, etc.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

For each target audience, the following tasks will be performed:

- A list of topics developed.
- Topics prioritized, and for each topic the specific type(s) of written material(s) needed will be identified.
- Literature searched for each topic on the list, in its priority order, to identify available information and available written materials (fact sheets, etc.), including a web-based search of CDC's site and other relevant sites;
- Appropriate written materials acquired, if feasible, if they can be identified,
- Appropriate materials written if they cannot be found
- All written materials reviewed for content and readability and translate into selected non-English languages (as indicated in second bullet above);
- Materials appropriately disseminated through mailings, websites, Alert Network, etc.
- Review and update list of topics periodically.

Timeline: What are the critical milestones and completion dates for each task?

These tasks are ongoing. Many fact sheets, Q & A sheets and technical written materials have already been acquired or developed, and many others are in the process of development. The time to completion for tasks 2 through 6 varies from one to two weeks, e.g. fact sheet in English to two years e.g. Surveillance and Reporting Manual. Websites have been used effectively to disseminate information regarding such topics such as SARS, WNV and monkeypox and will continue to be used for these purposes.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The responsible entity for these tasks is the MDPH.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward completion of each task will be measured by construction and review/update of topic lists for tasks 1 and 7 and by the proportion of topics for which each task is completed for tasks 2 through 6. Progress toward successful completion of the overall activity will be measured by the performance of tasks 1 and 7 and by the proportion of topics identified in task 1 for which tasks 2-6 are completed.

7. With local public health agencies, identify and maintain a current list of physicians and other providers with experience and/or skills in the diagnosis and treatment of infectious, chemical, or radiological diseases or conditions possibly resulting from a terrorism-associated event (for example, those who have seen and treated smallpox) who may serve as consultants during a public health emergency. (See Appendix 4, IT Function #7) (**CRITICAL BENCHMARK #8**)



Strategies: What overarching approach(es) will be used to undertake this activity?

In coordination with the HRSA Cooperative Agreement and with Focus Area A of the BT Cooperative Agreement, assess various organizations that catalog physicians and other providers with experience and/or skills that could potentially be utilized in the time of a WMD event. For smallpox specific concerns, the Smallpox Coordinator will work with the Smallpox Work Group and the Infectious Disease Society to identify clinicians who have seen and treated smallpox. BPHC has already developed an initial registry of infectious disease physicians in Boston who have clinical expertise in the diagnosis and treatment of BT agents.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Outside of Boston:

- Develop a survey tool for querying physicians about smallpox.
- Develop a survey tool for querying organizations about ability to catalog physicians.
- Distribute surveys through appropriate groups and associations.
- Develop a database of clinicians who have seen and treated smallpox.
- Develop a database of organizations that catalog physicians and other medical providers.

Within Boston:

- Revise existing survey to include chemical and radiologic diseases.
- Continue collaboration with staff with chemical and radiological expertise at Office of Environmental Health (OEH) and Dr. Sophia Dyer at Boston EMS.
- Maintain and annually update registry

Timeline: What are the critical milestones and completion dates for each task?

Outside Boston:

- By 12/2003, distribute physician's smallpox survey through the Smallpox Work Group, the Infectious Disease Society and other professional associations to solicit information on clinicians who have seen and treated smallpox.
- By March 2004, distribute organization's survey.

Within Boston:

- Revise existing survey by 9/2003
- Identify provider groups by 9/2003 and distribute the survey by 10/2003.
- Update Boston registry by 12/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Outside of Boston:

- The Smallpox Coordinator will be responsible for the distribution and analysis of the smallpox survey.
- The BT Coordinator, in conjunction with the HRSA Coordinator and Focus Area A Coordinator, will be responsible for the development and distribution of the organization's survey.

Within Boston:

- BPHC CD staff, OEH, and Boston EMS.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline described above.

8. (Smallpox) Develop and exercise a large-scale smallpox vaccination plan that will provide vaccine for the project's entire population and can be rapidly executed once a case of smallpox disease has been identified anywhere in the world. This plan will be implemented in conjunction with the smallpox response plan mentioned above that will aid in controlling and containing a smallpox disease outbreak should it occur within the project's jurisdiction. The plan should address: patient screening; clinic operations; outreach; adverse event monitoring and management; reading of takes; and evaluation.

Strategies: What overarching approach(es) will be used to undertake this activity?

Planning efforts in this area rely heavily on lessons learned from experiences with pre-event vaccination clinics and will be accomplished through the following 5 Smallpox Working Task Groups; 1) *Smallpox Vaccine Supply, Distribution and Dispensing* 2) *Mass Vaccination Site Identification*, 3) *Public Information* 4) *Isolation Facilities for Smallpox Cases Case Surveillance* and 5) *Contact Vaccination and Transmission Control (including emergency response and transport of infectious individuals)*. As such, much of the plans in this area are evolving continuously over time, as more information is available from pre-event planning efforts both in Massachusetts and other parts of the country and the world.

The MDPH will implement protocols that are compatible with ACIP and HCPAC recommendations, and with guidance from Annex 3 of the *Smallpox Response Plan and Guidelines*.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Finalize the smallpox vaccination clinic sites.
- Establish contractual arrangements for necessary supplies to be available and deliverable as needed within a 24-hour period, and, with MEMA and the three MMRSs, ensure there are emergency stocks of the necessary supplies readily available to begin clinics while additional supplies are being procured.
- Train teams of personnel in all aspects of clinic operations, including vaccine administration, screening for contraindications, and monitoring and management of adverse events. These teams will then train other potential clinic staff.
- Exercise large-scale smallpox vaccination clinic using influenza vaccine.

Timeline: What are the critical milestones and completion dates for each task?

- Complete potential clinic sites survey of LHD by 10/2003. Establish memoranda of agreement with at least 2 large venues in each region by 4/2004.
- Establish emergency stockpiles by 12/2003. Establish contractual arrangements for clinic supplies by 2/2004.
- See Focus Area G.
- Contract with vendor to organize mass vaccination clinic exercises by 4/2004.



Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Smallpox Coordinator and BT Coordinator, with input from the Medical Director and the 5 Smallpox Working Task Groups and Focus Area B work groups, will work with the contracted vendor, MEMA, the MMRs and other MDPH staff on all the tasks associated with this activity.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the accomplishment of the milestones according to the timeline described above.

9. Establish a secure, Web-based reporting and notification system that provides for rapid and accurate receipt of reports of disease outbreaks and other acute health events that might suggest bioterrorism. Include provision for multiple channels for routine communications (e.g., Web, e-mail) and alert capacity for emergency notification (e.g., phone, pager) of key staff. (See Appendix 4 for IT Functions #6-9.) **(LINK WITH FOCUS AREA E, CROSS CUTTING ACTIVITY INTEROPERABILITY OF IT SYSTEMS, Attachment X) (CRITICAL BENCHMARK #9)**

Strategies: What overarching approach(es) will be used to undertake this activity?

MDPH will leverage the communication infrastructure of the Alert Network and other systems to establish a secure, web-based reporting mechanism for receipt of disease outbreaks and other acute health events, using the Alert Network, radio communication, a Dialogics Broadcast Communicator.

The Alert Network application allows for messaging to email, pagers, fax and voice phone and will interface with surveillance systems through web services. MDPH will enhance the functionality of its current Alert Network applications to include secure wireless access. This could include wireless access to other systems as appropriate. These enhancements broaden the mechanisms at which locales have access.

Radio devices were distributed to multiple agencies and secure, monitored repeaters were established to ensure thorough radio coverage. MDPH also has continued to support a Dialogics Broadcast and a Communicator for easy dissemination of fax and email notifications.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Interface appropriate surveillance application to established alerting services.
- Define triggers for automatic alert generation.
- Define alerting protocols for effective, need-to-know basis information dissemination.
- Execute tests and drills to ensure proper design and function of system interface.

Timeline: What are the critical milestones and completion dates for each task?

All the following efforts are on-going:

- Identify existing surveillance systems that would benefit from interface with alerting services.
- Document statistical criteria of surveillance systems that warrant attention.



- Classify priority of notification/alert based on particular threshold levels.
- On a per threshold/event basis, identify personnel who should be alerted.
- Define and execute drills to test effectiveness of notifications/alerts.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH with input from appropriate partners will be responsible for all activities.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

MDPH performs bi-monthly project reports to senior management and internal technical staff, to share lessons learned, avoid pitfalls and monitor progress.

10. Conduct bioterrorism sessions at key meetings and conferences of outside organizations involved in epidemiologic detection and response, for example, the Association for Practitioners of Infection Control (APIC), infectious disease societies, healthcare practitioners, and veterinary organizations.

Strategies: What overarching approach(es) will be used to undertake this activity?

Each of the 5 focus areas of the BT Cooperative Agreement has experts in their subject areas that are members of corresponding professional organizations. MDPH staff regularly attends and give updates at meetings of these organization such as APIC, the MA Infectious Disease Society, Mass Medical Society, Mass Hospital Association, MVMA, Mass Public Health Association, the Northeast Branch of ASM and NACMID (Northeast Association for Clinical Microbiology and Infectious Diseases), public health nursing organizations, school nursing organizations, etc. Updates are either subject specific or they incorporate general emergency preparedness planning activities currently underway at the MDPH. This method of contacting organizations and presenting information at their various meetings will continue.

Through Focus Area G, MA Department of Food and Agriculture (MDFA) will collaborate with partners on a series of 5 workshops over the coming 12 months on issues of BT preparedness and response geared to constituencies including a) private veterinary practitioners and their veterinary technicians, b) LHD personnel c) the companion animal community d) the livestock community, and e) the wildlife health community.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Encourage MDPH staff to become members of professional organizations related to their subject areas of expertise.
- Present updates as to the progress of the MDPH on emergency preparedness topics.
- Finalize contract with appropriate training partner for MDFA workshop development.
- Solicit input from various veterinary constituencies about BT-related concerns and issues.
- Consult with MDFA training staff on desired goals and objectives of training.
- Prepare curricula and agendas for workshops, schedule and conduct workshops.

Timeline: What are the critical milestones and completion dates for each task?



- First two activities are ongoing.
- Finalize contract with training partners by 10/2003.
- Solicit input from various veterinary constituencies by 10/2003.
- Consult with MDFA training staff on desired goals and objectives of training by 10/2003.
- Prepare curricula and agendas for workshops by 12/2003 and schedule and conduct workshops throughout the fiscal year, to be arranged.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

MDPH Staff, MDFA staff and Bureau of Animal Health Professional Staff and Training Coordinator. BPHC CD staff will be responsible for training efforts in Boston.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of these activities will be determined by the achievement of the milestones according to the timelines above.

CRITICAL CAPACITY #7: To rapidly and effectively investigate and respond to a potential terrorist event, as evidenced by ongoing effective state and local response to naturally occurring individual cases of urgent public health importance, outbreaks of disease, and emergency public health interventions such as emergency chemoprophylaxis or immunization activities.

1. At least annually, assess through exercises or after-action reports to actual events, the 24/7 capacity for response to reports of urgent cases, outbreaks, or other public health emergencies, including any events that suggest intentional release of a biologic, chemical, or radiological agent. **(CRITICAL BENCHMARK #10)**

Strategies: What overarching approach(es) will be used to undertake this activity?

Although epidemiologists are accessible 24/7 and protocols state that all disease-related questions will be answered within 60 minutes, a test of the epidemiologic response system has never been conducted. Particularly in after-hours situations, response partners that epidemiologists need to notify are sometimes difficult to contact. Procedures to test statewide epidemiologic response will be developed.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Develop written epidemiologic response criteria and assign targeted completion date and time for each task.
- Test the current epidemiological response during the 9-5 workday using the above criteria retrospectively.
- Test the current epidemiological response after-hours using the above criteria retrospectively.
- Develop evaluation criteria that can test the above criteria “real time” through notification of response partners that the response is being evaluated.
- Test epidemiological response during the 9-5-work day using the criteria in #4.
- Test epidemiological response after-hours using the criteria in #4.



Timeline: What are the critical milestones and completion dates for each task?

- By 11/2003 query epidemiologists and compile response criteria based on accepted completion time.
- By 1/2004 conduct test of the current daytime response system by retrospectively analyzing urgent outbreak reports.
- By 1/2004 conduct test of the current after-hours response system by retrospectively analyzing urgent outbreak reports.
- By 3/2004 develop test methods to epidemiologic response system “real time”.
- By 7/2004 test the epidemiologic response system during the 9-5-work day.
- By 8/2004 test the after-hours epidemiologic response system.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization program staff.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

2. At least annually, assess adequacy of state and local public health response to catastrophic infectious disease such as pandemic influenza, other outbreaks of disease and other public health emergencies. **(CRITICAL BENCHMARK #11)**

Strategies: What overarching approach(es) will be used to undertake this activity?

See Focus Area A for MDPH response plans and criteria to evaluate the state response to outbreaks of infectious disease, or media reports of potentially catastrophic disease situations. Within the Division of Epidemiology and Immunization, epidemiologic response plans for large-scale emergencies such as SARS, Hepatitis A in a foodhandler, multiple cases of meningitis, or suspect or confirmed BT events will be evaluated for completeness and timeliness.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Based on Standard Operating Procedures (SOPs), develop evaluation criteria to evaluate the epidemiologic response to large scale infectious disease events
- Using above criteria, analyze a large-scale event from each of the following groups: zoonotic, invasive meningitides, foodborne and ILI.
- Use evaluation of #2 to amend SOPs.

Timeline: What are the critical milestones and completion dates for each task?

- By 1/2004, develop evaluation criteria.
- By 3/2004, analyze reports from specified situations.
- By 6/2004, update SOPs to include lessons learned from evaluations.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization program staff.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

3. Based on these assessments, develop or enhance case investigation protocols, response procedures, legal or regulatory provisions, or communication and information dissemination activities that improve the effectiveness of the public health epidemiologic response.

Strategies: What overarching approach(es) will be used to undertake this activity?

In collaboration with Focus Area A and the HRSA staff, evaluations of the above tests of epidemiologic response will be conveyed. Activities related to legal or regulatory provisions, information dissemination or communication, will be addressed by Focus Areas F and E of the BT Cooperative Agreement.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Provide evaluation summaries of response tests discussed above to the BT Advisory Committee and the MDPH Commissioner's Office.
- Update Division of Epidemiology and Immunization SOPs as needed.

Timeline: What are the critical milestones and completion dates for each task?

- By August 2004, provide results of evaluations.
- Ongoing.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Division of Epidemiology and Immunization staff.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline above.

4. Ensure epidemiologic response capacity to investigate and respond to urgent cases, catastrophic infectious disease such as pandemic influenza, other disease outbreaks, and public health emergency interventions at the state and local level by providing necessary staffing, supplies, equipment, consultation, and training in epidemiology, outbreak investigation, interpretation of clinical and laboratory information, public health control measures, protection measures for emergency response workers, communications systems, and management of secure information.

Strategies: What overarching approach(es) will be used to undertake this activity?

Approach 1: To allow LHD to continue their communicable disease reporting and control activities in times of interruptions, e.g. vacations, sick leaves, vacancy periods and during large outbreaks, MDPH will contract with qualified vendors with the ability to offer public health services on a short term, intermittent, on-call basis to LHD.

Approach 2: MDPH will maintain staff sufficient in numbers, education and training to handle the prevention, control and investigation of most naturally occurring communicable diseases, a BT threat,



and any vectorborne, foodborne, waterborne or respiratory outbreaks that may occur.

Approach 3: MDPH will establish an Emergency Operations Center (EOC) to be located at the State Laboratory Institute (SLI), which currently houses the public health clinical laboratories, and the Bureau of Communicable Disease Control. An EOC will allow a more appropriate response to an infectious disease emergency by allowing key players to respond to the emergency from a central location, with the appropriate capacity to communicate with all key players in the state.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Approach 1:

- RFRs will be posted seeking responses from qualified vendors focusing on 5 of the Emergency Preparedness Regions in Massachusetts.

Approach 2:

- To keep up present staffing levels at MDPH, support will continue for all personnel
- Presently on the current cooperative agreement.
- All staff will be provided with on-going training.
- Computer hardware and software will be provided to new staff and existing staff will have on-going needs met.
- The training needs of LHD are being addressed in Focus Area G as well as specialized training needs of Department staff.
- Equipment needs of LHD are being addressed in Focus Area E.
- Evaluations of current space requirements will occur for existing and new staff and appropriate renovations proposed.

Approach 3:

- An EOC will be established by identifying an adequate space and equipping that space with the appropriate communications equipment and technologies to effectively respond to an infectious disease emergency.

Timeline: What are the critical milestones and completion dates for each task?

Approach 1:

- RFRs will be posted seeking responses from qualified vendors focusing on 5 of the Emergency Preparedness Regions in Massachusetts by 10/1/2003 with contractors chosen by 1/1/2004, contracts in place by 3/1/2004 and the program operational by 4/1/2004.

Approach 2:

- Over the course of the funding year assessments will be made as to appropriate staffing levels and these levels will be maintained.
- Over the course of the funding year on-going assessments of the space, equipment and training and educational needs of MDPH staff will be made and appropriate resources provided.

Approach 3:

- By 10/1/2003 a location at the SLI will be identified and renovations begun.
- By 12/1/2003 the EOC will be appropriately equipped and operational and tested.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.



Approach 1:

- MDPH Epidemiology Program personnel will be responsible for the operationalization of all aspects of the program.

Approach 2:

- Management will ensure staffing levels are maintained and staff is provided with sufficient space, equipment and other necessary resources to accomplish their tasks.
- Health education unit personnel will ensure training and education is provided to MDPH staff as appropriate.

Approach 3:

- MDPH personnel will be responsible for the establishment of the EOC using funding from both Focus Area B and supplemental smallpox planning funding.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Approach 1: Periodically during the course of the funding year, the utilization rates of the contractors by LHDs will be evaluated. In addition, evaluations will be required from the LHDs utilizing the service as to its quality, ease of use and overall usefulness. Changes will be made based on the responses received.

Approach 2: All positions are filled; staff is well trained, educated, housed adequately and provided appropriate equipment. Public health problems are responded to effectively and efficiently, the public is responded to and prevention and control measures are instituted in a timely and appropriate manner.

Approach 3: The EOC is operational and tested by the target dates.

5. Maintain continuous participation in CDC's Epidemic Information Exchange Program. (See Appendix 4 for IT Functions #7-9.)

Strategies: What overarching approach(es) will be used to undertake this activity?

Key staff at the MDPH, responsible for infectious disease response and control activities, including those of a BT nature is required to participate in CDC's Epidemic Information Exchange Program (EpiX).

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Determine as a person is hired into applicable positions, their function within EpiX, i.e. whether they will be identified as a reader or contributor.
- Send names and email addresses to the EpiX help desk, requesting that these individuals be added to the program in the capacity so indicated and instructions emailed to enable a successful integration into the system.

Timeline: What are the critical milestones and completion dates for each task?

- Within two weeks of staff responsible for infectious disease response and control activities joining the MDPH, their names will be forwarded to EpiX for action.
- On a yearly basis, the participant list will be solicited from EpiX and corrections and/or additions will be made based on the current requirements of the MDPH.



Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Epidemiology Program Coordinator coordinates all activities regarding Staff participation in EpiX including the addition and deletion of readers and contributors.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

On a yearly basis, after the participant list is obtained, a survey tool will be developed and sent to all participants inquiring as to their usage of EpiX and problems encountered in the course of their activities. Under use or misuse of EpiX will be identified, causes determined and corrective action developed and implemented.

6. With local public health agencies, educate, especially in the context of real-life situations, key policy makers, partners and stakeholders in your jurisdiction regarding the nature and scope of public health surveillance, investigation, response and control.

Strategies: What overarching approach(es) will be used to undertake this activity?

BPHC will finalize an integrated public health response plan for Logan Airport and the Port of Boston, to manage suspected cases of infectious diseases in conjunction with state police, local hospitals, Boston EMS, Massport and others.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Finalize plan.
- Distribute plan.
- Implement plan.

Timeline: What are the critical milestones and completion dates for each task?

- Finalize plan by 12/2003.
- Distribute plan by 1/2004.
- Implement plan by 4/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

BPHC CD staff, state police, local hospitals, Boston EMS, Massport, JFK Quarantine, and US Customs & Border Control will be involved in all activities.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Assess timeline calendar for progress throughout project, establish team meetings to review status and identify barriers.

7. With local public health agencies, apply information technology to enhance response capacity (for example, workflow tracking and monitoring systems; field data entry, analysis, and transmission; management of case contacts; and delivery of immunizations and chemoprophylaxis information. (See Appendix 4 for IT Functions #5, 6, and 9.)

Strategies: What overarching approach(es) will be used to undertake this activity?



MDPH will collaborate with local health authorities, to identify and implement IT solutions to enhance response capacity. PHIN compliant solutions, including the NEDSS Base System (NBS) and new immunization registry will be combined with existing IT applications including the Alert Network and PVMS to create an overall web-based reporting and case-management solution. Wireless technologies will also be evaluated for field data entry.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Perform Gap Analysis of NBS to ensure compatibility with state and local health authorities' business rules and security needs.
- Evaluate other PHIN compatible solutions to possibly serve as interim solutions, in addition to NBS.
- Deploy NBS, possibly in conjunction with other PHIN compatible solutions.
- Complete pilot wireless implementation of PVMS and the Alert Network.
- Continue development of Massachusetts Immunization Information System (MIIS).

Timeline: What are the critical milestones and completion dates for each task?

- Wireless implementation of Alert Network and PVMS by 9/2003.
- Gap analysis of NBS completed by 11/2003.
- Evaluation of other PHIN compatible solutions completed by 12/2003.
- NBS, possibly in conjunction with other PHIN compatible solutions, deployed by 3/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

- MDPH will primarily be responsible for gap analysis of NBS and evaluation of other PHIN solutions, with significant input from identified local health authorities.
- CDC and its contractors will be responsible for completion and customization of NBS version 1.1.
- MDPH and identified contractors will be responsible for the wireless implementation of the Alert Network and PVMS.
- The MDPH's Massachusetts Immunization Program (MIP) is responsible for continued development of the MIIS.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

MDPH has established committees including the IT Systems Steering Committee and the Technology and Standards Committee that serve as department monitors to evaluate project progress and ensure that the strategic initiatives of MDPH are executed optimally.

8. (Smallpox) Develop a comprehensive smallpox response plan that incorporates post-event plans from participating hospitals. Exercise the plan so it can be rapidly executed to control and contain the consequences of a smallpox outbreak should the outbreak occur within the project's jurisdiction.

Strategies: What overarching approach(es) will be used to undertake this activity?



A comprehensive smallpox response plan will be developed through the following 5 Smallpox Working Task Groups that are being proposed; 1) *Smallpox Vaccine Supply, Distribution and Dispensing* 2) *Mass Vaccination Site Identification*, 3) *Public Information* 4) *Isolation Facilities for Smallpox Cases* 5) *Contact Vaccination and Transmission Control (including emergency response and transport of infectious individuals)*. These groups will work with the Massachusetts Hospital Association to develop a comprehensive smallpox response plan that incorporates post-event plans from participating hospitals.

An Emergency Operations Center will be established at the State Laboratory Institute using funds from both Focus Area B and the smallpox preparedness supplement. See Critical Capacity #7.7 for a description of tasks, milestones, responsibilities and evaluation metrics.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Develop plan for isolation of smallpox-infected persons and the quarantine of unvaccinated high-risk individuals, in accordance with the *CDC Smallpox Response Plan and Guide*.
- Develop plan for contact vaccination and vaccination of public health and healthcare response personnel and first responders.

Timeline: What are the critical milestones and completion dates for each task?

- Identify isolation facilities by 1/2004. Develop plan to register and track the isolation of smallpox-infected persons and quarantine of unvaccinated high-risk individuals by 2/2003.
- Vaccinate teams of health care workers and public health workers by 10/2004 (See #9 below). Develop plan to vaccinate contacts and additional health care workers post-event by 3/2004.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Smallpox Coordinator, BT Nurse Coordinator and Medical Director, with input from the Smallpox Working Task Groups and the BT Advisory Committee, will oversee these tasks.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the accomplishment of the milestones by the timeline indicated above.

9. (Smallpox) Identify the number and type of healthcare and public health personnel to serve as members on smallpox response (public health and healthcare response) teams who will be target recipients for vaccine.

Strategies: What overarching approach(es) will be used to undertake this activity?

MDPH has identified the number and type of healthcare and public health personnel to serve as members on smallpox response teams who will be targets for vaccine:

- A multidisciplinary group of 1,000 first responders, medical professionals, epidemiologists, laboratory professionals, law enforcement officials and local officials, who will investigate any suspect case of smallpox in the community and mitigate the hazard by closing off access to the area, isolating contacts of the suspect case until they can be interviewed, and safely transporting



the suspect case to the hospital.

- 3,000 public health nurses, including municipal nurses, school nurses and visiting nurses, and emergency technicians and paramedics from across the state will be trained and vaccinated to build capacity for future smallpox vaccination activities. These vaccinated and trained nurses will form the core of a cadre of trained health care providers who will be ready to implement mass smallpox vaccination clinics in the event of a BT attack.
- Multi-disciplinary teams at each of the 76 acute care hospitals with EDs in the state.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Review identified groups with Smallpox Work Group. Revise target groups as needed.

Timeline: What are the critical milestones and completion dates for each task?

By 3/2004, review groups and revise targets, if needed.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Smallpox Coordinator will coordinate this task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Successful completion of this activity will be determined by the achievement of the milestones according to the timetable described above.

10. Enhanced Recipient Activity: (Smallpox) Develop and maintain a registry of all public health personnel, health care personnel, public health workers, security staff needed to maintain public order, EMS staff needed to transport ill patients, hospital staff, private physicians and their staff who may be occupationally at risk to receive vaccination in the event of the release of smallpox.

Strategies: What overarching approach(es) will be used to undertake this activity?

Meet with State BT Advisory Committee and State Boards of Registration to develop strategies regarding the development of such a registry, if deemed feasible, or establish alternative mechanism (e.g. employer-based) for identifying personnel at risk to receive vaccination in the event of a smallpox release. This will be more easily accomplished since the Boards of Registration in Medicine, Nursing and Pharmacy have been part of MDPH since 1/2003.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Put this item on the agenda of State BT Advisory Committee.
- Set up meetings with the State Boards of Registration.

Timeline: What are the critical milestones and completion dates for each task?

State BT Advisory Committee will discuss this issue and meetings will be held with the Boards of Registration by 12/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Smallpox Coordinator will oversee the tasks associated with this activity.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward the successful completion of this activity will be determined by the identification of a strategy to identify personnel who may be at risk to receive vaccination in the event of a smallpox release.

11. Enhanced Recipient Activity: (Smallpox) Enumerate the number and type of key security staff needed to maintain public order, EMS staff needed to transport ill patients, hospital staff, private physicians and their staff who may be occupationally at risk during a smallpox outbreak who will be target recipients for vaccine.

Strategies: What overarching approach(es) will be used to undertake this activity?

Assuming all public safety and health care workers will need to be vaccinated in the event of a smallpox release, obtain estimates of all relevant personnel in the state from the State Boards of Registration, professional organizations and the relevant State Agencies.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Contact each of the entities listed above.

Timeline: What are the critical milestones and completion dates for each task?

Numbers of public safety and health care workers in the state will be determined by 12/2003.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Smallpox Coordinator and BT Nurse Coordinator, with input from the Medical Director, will be responsible for this activity.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward the successful completion of this activity will be determined by the development of a comprehensive list of the number and types of public safety and health care workers who will be targeted recipients of vaccine in the event of a smallpox outbreak.

ENHANCED CAPACITY #6: For effective response through the creation or strengthening of pre-event, ongoing working links between health department staff and key individuals and organizations engaged in healthcare, public health, and law enforcement.

1. Regularly provide relevant public health information to key partners through an appropriate Web site and/or a jurisdiction-wide newsletter. **(LINK WITH FOCUS AREA E)**

Strategies: What overarching approach(es) will be used to undertake this activity?

The following will be utilized by MDPH to disseminate information; the quarterly newsletter, the *Communicable Disease Update*, advisories posted on the web, professional groups to disseminate through their membership, such as the Mass Hospital Association (MHA) and Mass Medical Society (MMS), broadcast faxes and listserves, the Alert Network, etc.



BPHC will continue to maintain and develop working links with key individuals and organizations engaged in healthcare, public health, and law enforcement. BPHC also worked with the local media to develop appropriate public health training material for first responders. BPHC will continue to work with first responders to identify innovative ways to engage the broader first responder community.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Publish the *Communicable Disease Update* quarterly.
- Continue relationships with MMS and MHA.
- Maintain website and conduit for immediate posting of advisories.
- Utilize Alert Network for information dissemination.
- Maintain Surveillance Task Force Secure Website.
- Provide conference calls regarding public health preparedness issues as needed.
- Develop and distribute clinical advisories as needed.
- Collaborate with BPHC Communications Department to develop additional training materials for the broader first responder community.
- Utilize the BPHC website for distribution of linguistically diverse educational material for the public.

Timeline: What are the critical milestones and completion dates for each task?

All activities will be on going and on an as needed basis.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

All activities will be the responsibility of MDPH, the BPHC CD staff and the BPHC Communications Department.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

With an assessment timeline calendar for progress throughout project, a registry of activities related to enhance connectivity among key individuals and organizations engaged in healthcare, public health, and law enforcement, and team meetings to review progress and identify barriers.

2. With local public health agencies, enhance relationships with infection control professionals through development of a formal public health network or support of state activities that build relationships between the health department and the Association for Practitioners in Infection Control and Epidemiology.

Strategies: What overarching approach(es) will be used to undertake this activity?

Continue to expand upon an established and effective network of communication and collaboration between APIC and the State Epidemiologist, Bureau of Communicable Disease Control and Bureau of Laboratory Sciences.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Attend the annual meeting of the APIC NE chapter by appropriate MDPH staff.
- Attend meetings of local and regional infection control groups across the state.



- Convene meetings to encourage the collaboration of local public health practitioners and facility-based infection control practitioners.
- Extend invitations to infection control practitioners to attend meetings of the BT Advisory Committee and various working groups.

Timeline: What are the critical milestones and completion dates for each task?

- By 8/2004, MDPH staff will have attended and/or presented at 3 meetings of infection control practitioners.
- By 9/2004, review attendance at BT Advisory Committee and various working groups to ensure participation of infection control practitioners.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

- MDPH staff will be responsible for tasks 1-3.
- Coordinators of each of the working groups will be responsible for task 4.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Successful completion of this activity will be determined by the achievement of the milestones according to the timetable described above.

3. With local public health agencies, enhance relationships with infectious disease physicians by participating in infectious disease rounds and conferences, supporting an infectious disease society or network, or supporting a health department-based infectious disease fellow. **(LINK WITH FOCUS AREA G)**

Strategies: What overarching approach(es) will be used to undertake this activity?

As part of the needs assessment discussed in Focus Area A, LHDs will be queried as to the level of infectious disease expertise for which they currently have access. As gaps and weaknesses are identified, strategies will be developed to correct deficiencies. If the larger LHDs are found to be lacking in infectious disease expertise, one approach that will be explored will be to provide support for local infectious disease fellows/practitioners/students through an RFR process as resources allow.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

- Completion and analysis of the needs assessment.
- Development of RFR for contractual services of infectious disease fellows/practitioners/students.
- Distribution of RFRs.
- Awarding of contracts for infectious disease staff placement.

Timeline: What are the critical milestones and completion dates for each task?

- See Focus Area A.
- By the completion of the needs assessment, decide on appropriate approach to fill gaps identified regarding access to infectious disease expertise.
- As appropriate and feasible, develop language for RFR and distribute RFRs.
- Within 2 months of the completion of the analysis of the needs assessment, award contracts for infectious disease staff placement, as appropriate.



Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Needs Assessment Coordinator, Epidemiology Program Coordinator and BT Coordinator will share responsibility for the project.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress towards the completion of this objective will be evidenced by the successful placement of infectious disease fellows/practitioners/students at specifically identified LHDs (number determined by resources) in need of such support.

4. With local public health agencies, enhance relationships with emergency department providers and emergency responders by attending and participating at conferences, developing and evaluating surveillance activities, or engaging in NEDSS-related activities for development of electronic systems for emergency department reporting. (See Appendix 4 for IT Functions #1-2.)

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

5. With local public health agencies, enhance relations with medical schools, nursing schools, Centers for Public Health Preparedness, and other schools of public health through joint sponsorship of conferences, teaching, assisting in curriculum development and offering health department electives to students and residents. **(LINK WITH FOCUS AREA G)**

Strategies: What overarching approach(es) will be used to undertake this activity?

MDPH and BPHC will develop or build upon collaborations and partnerships already formed in the past year with the Harvard Center for Public Health Preparedness, other schools of public health, schools of medicine and academic medical centers to develop, deliver and evaluate competency-based training.

Tasks: What key tasks will be conducted in carrying out each identified strategy?

During the next grant year, MDPH will: 1) continue to meet with representatives from University of Massachusetts, Boston University, Harvard University and Tufts University to discuss more specifically how each entity can contribute; 2) expand these meetings to include schools of medicine and



other academic medical centers; 3) provide guidance and offer tools to course developers using established competencies as a foundation; 4) establish evaluation tools and criteria for quality training programs; 5) provide education/training and promotion about TRAIN so that each entity can contribute to the learning management system.

The first collaborative education and training project is a locally developed and locally led satellite broadcast to be aired on July 8, 2003. A second locally developed and locally led satellite broadcast will be held in the fall 2003. MDPH and the Harvard Center for Public Health Preparedness will continue meet on a regular basis to discuss other collaborative projects.

Timeline: What are the critical milestones and completion dates for each task?

MDPH will meet with each school of public health entity listed above by 9/2003, and each school of medicine by 12/2003. Using the working documents developed in the Curriculum Planning and Inventory Subgroup (*Summary Report of Training Programs, Gap Report, Training Catalogue*), MDPH will add and update information on an ongoing basis. MDPH will research and establish evaluation tools and criteria for quality training programs by 9/2003. MDPH will provide education/training and promotion about TRAIN so that each entity can contribute to the learning management system on an ongoing basis.

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

The Focus Area G Coordinator, the Education and Training Workgroup Coordinator, the Curriculum Planning and Inventory Subgroup Coordinator and the HRSA Cooperative Agreement Medical Director and Hospital Preparedness Coordinator, in collaboration with the MDPH Division of Epidemiology and Immunization Health Education Unit, will be responsible for the tasks associated with this activity. BPHC CD staff will be responsible for Boston-specific training initiatives.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

Progress toward successful completion of this activity will be determined by the achievement of the milestones according to the timeline described above.

6. With local public health agencies, enhance relations with law enforcement agencies, the business community, and the National Guard by establishing designated points of contact and through cross-training in each discipline and/or joint sponsorship of conferences.

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.



Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

7. With local public health agencies, enhance relations with veterinarians by encouraging infectious disease testing and reporting, participation in veterinary school grand rounds, encouraging relationships with the state board of animal health, department of agriculture, department of natural resources, veterinary school, and veterinary diagnostic laboratory.

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

8. With local public health agencies, enhance relations with members of the medical examiner and coroner response community by providing education, designating points of contact, and providing joint sponsorship of meetings.

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?



9. With local public health agencies, enhance relationships with emergency management agencies to support public health agency role during emergency response activities through cross-training in each discipline, especially enhancing public health's understanding of the Incident Command System.

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

10. With local public health agencies, enhance relationships with environmental health and management agencies to support the surveillance, investigation, and response activities required in the event of a chemical or radiological terrorism-associated event.

Strategies: What overarching approach(es) will be used to undertake this activity?

Tasks: What key tasks will be conducted in carrying out each identified strategy?

Timeline: What are the critical milestones and completion dates for each task?

Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

11. With local public health agencies, enhance relationships with worker safety and health agencies and the emergency response community to address issues related to the protection of emergency



response workers, health care workers, remediation workers, workers involved in restoring essential public services, and others that may be involved in the response to a terrorist event.

Strategies: What overarching approach(es) will be used to undertake this activity?

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Tasks: What key tasks will be conducted in carrying out each identified strategy?

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Timeline: What are the critical milestones and completion dates for each task?

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Responsible Parties: Identify the person(s) and/or entity assigned to complete each task.

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Evaluation Metric: How will the agency determine progress toward successful completion of the overall recipient activity?

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